End of Result Set

09/875,412

Generate Collection | Print

L7: Entry 1 of 1 File: PGPB Jul 4, 2002

PGPUB-DOCUMENT-NUMBER: 20020086279
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020086279 A1

TITLE: Protein activity screening of clones having DNA from uncultivated microorganisms

PUBLICATION-DATE: July 4, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Short, Jay M.	Rancho Santa Fe	CA	US	

US-CL-CURRENT: 435/4

CLAIMS:

What is claimed is:

1. A method for identifying an enzymatic activity of interest comprising: culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor eukaryotic organisms; and detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

2. The method of claim 1, wherein the enzymatic activity is selected from the group consisting of oxidoreductase, transferase, hydrolase, lyase, isomerase, and ligase activity.

3. The method of claim 1, wherein the donor eukaryotic organisms are microorganisms.

4. The method of claim 3, wherein the microorganisms are derived from an environmental sample.

5. The method of claim 1, wherein the microorganisms are a mixed population of uncultured organisms.

6. The method of claim 1, wherein the organisms are fungi.

7. The method of claim 1, wherein the organisms are algae.

8. The method of claim 1, wherein the organisms are protozoan.

9. The method of claim 5, wherein the organisms are extremophiles.

10. The method of claim 9, wherein the organisms are thermophiles, hyperthermophiles, psychrophiles, or psychrotrophs.

11. The method of claim 1, wherein the host cell is a bacterial cell.

12. The method of claim 11, wherein the bacterial cell is an E. coli, Bacillus,

Streptomyces, or Salmonella typhimurium cell.

13. The method of claim 1, wherein the host cell is a fungal cell.

14. The method of claim 13, wherein the fungal cell is a yeast cell.

15. The method of claim 1, wherein the host cell is a Drosophila S2 or a Spodoptera S9 cell.

16. The method of claim 1, wherein the host cell is an animal cell.

17. The method of claim 16, wherein the animal cell is a CHO, COS or Bowes melanoma cell.

18. The method of claim 1, wherein the host organism is a plant cell.

19. A method for identifying an enzymatic activity of interest comprising: culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms wherein the host cell is a bacterial cell; and detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

20. A method for identifying an enzymatic activity of interest comprising: culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, wherein the host cell is a fungal cell; and detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

21. A method for identifying an enzymatic activity of interest comprising: culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, wherein the host cell is a plant cell; and detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

22. A method for identifying an enzymatic activity of interest comprising: culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms wherein the host cell is an animal cell; and detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

L7: Entry 1 of 4 File: USPT Aug 28, 2001

US-PAT-NO: 6280926
DOCUMENT-IDENTIFIER: US 6280926 B1

TITLE: Gene expression library produced from DNA from uncultivated microorganisms and methods for making the same

DATE-ISSUED: August 28, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Rancho Santa Fe	CA		

US-CL-CURRENT: 435/4; 435/183, 435/6

CLAIMS:

What is claimed is:

1. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor eucaryotic organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host cell; and

detecting the enzymatic activity encoded by this cDNA or genomic DNA fragments.

2. The method of claim 1, wherein the enzytatic activity is selected from the group consisting of oxidoreductase, transferase, hydrolase, lyase, isomerase, and ligase activity.

3. The method of claim 1, wherein the donor eukaryotic organisms are microorganisms.

4. The method of claim 3, wherein the microcirganisms are derived from an environmental sample.

5. The method of claim 3, wherein the microorganisms are a mixed population of uncultured organisms.

6. The method of claim 1, wherein the organisms are fungi.

7. The method of claim 1, wherein the organisms are algae.

8. The method of claim 1, wherein the organisms are protozoan.

9. The method of claim 4, wherein the organisms are extremophiles.

10. The method of claim 9, wherein the organisms ate therimophiles,

hyperthermophiles, psychrophiles, or psychrotrophs.

11. The method of claim 1, wherein the host cell is a bacterial cell.

12. The method of claim 11, wherein the bacterial cell is an E. coli, Bacillus, Streptomyces, or Salmonella typhimurium cell.

13. The method of claim 1, wherein the host cell is a fungal cell.

14. The method of claim 13, wherein the fungal cell is a yeast cell.

15. The method of claim 1, wherein the host cell is a Drosophila S2 or a Spodoptera S9 cell.

16. The method of claim 1, wherein the host cell is an animal cell.

17. The method of claim 16, wherein the animal cell is a CHO, COS or Bowes melanoma cell.

18. The method of claim 1, wherein the host organism is a plant cell.

19. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constucts, each expression construct comprising a vector containing one or more cDNA or gertomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomnic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is a bacterial cell; and

detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

20. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is a fungal cell; and

detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

21. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genotnic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is a plant cell; and

detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

22. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of

expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is an animal cell; and detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

WEST

End of Result Set

09/861267

Generate Collection | Print

L6: Entry 1 of 1 File: PGPB May 2, 2002

PGPUB-DOCUMENT-NUMBER: 20020051987
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020051987 A1

TITLE: Enzyme kits and libraries

PUBLICATION-DATE: May 2, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Short, Jay M.	Rancho Santa Fe	CA	US	

US-CL-CURRENT: 435/6; 435/455, 435/7.21

CLAIMS:

What is claimed:

1. A method of screening clones having DNA recovered from a plurality of species of organisms for a specified enzyme activity, which method comprises: screening for a specified enzyme activity in a library of clones prepared by (i) recovering DNA from a DNA population derived from a plurality of species of organisms; and (ii) transforming a host cell with the DNA of (i) to produce a library of clones which is screened for the specified enzyme activity.

2. The method of claim 1, wherein the DNA is amplified prior to transforming the host cell.

3. The method of claim 1, wherein the DNA is ligated into a vector prior to transforming the host cell.

4. The method of claim 3, wherein the vector comprises at least one DNA sequence capable of regulating production of a detectable enzyme activity from said DNA.

5. The method of claim 3, wherein the vector into which the DNA has been ligated is used to transform a host cell.

WEST

Generate Collection | Print

Search Results - Record(s) 1 through 10 of 15 returned.

1. Document ID: US 20020150949 A1

L5: Entry 1 of 15 File: PGPB Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020150949
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020150949 A1

TITLE: High throughput screening for novel enzymes

PUBLICATION-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Short, Jay M.	Rancho Santa Fe	CA	US	
Keller, Martin	San Diego	CA	US	

US-CL-CURRENT: 435/7.1; 435/455, 435/7.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

2. Document ID: US 20020127560 A1

L5: Entry 2 of 15 File: PGPB Sep 12, 2002

PGPUB-DOCUMENT-NUMBER: 20020127560
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020127560 A1

TITLE: High throughput screening for novel enzymes

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Short, Jay M.	Rancho Santa Fe	CA	US	
Keller, Martin	San Diego	CA	US	

US-CL-CURRENT: 435/6; 435/471, 435/7.32

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

3. Document ID: US 20020001809 A1

L5: Entry 3 of 15 File: PGPB Jan 3, 2002

PGPUB-DOCUMENT-NUMBER: 20020001809
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020001809 A1

TITLE: High throughput screening for novel enzymes

PUBLICATION-DATE: January 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Short, Jay M.	Rancho Santa Fe	CA	US	
Keller, Martin	San Diego	CA	US	

US-CL-CURRENT: 435/6; 435/7.92

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. Desc | Image

---

4. Document ID: US 6455254 B1

L5: Entry 4 of 15 File: USPT Sep 24, 2002

US-PAT-NO: 6455254
DOCUMENT-IDENTIFIER: US 6455254 B1

TITLE: Sequence based screening

DATE-ISSUED: September 24, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Rancho Santa Fe	CA		

US-CL-CURRENT: 435/6; 435/91.2, 536/23.1, 536/24.3, 536/24.33

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWMC | Draw. Desc | Image

---

5. Document ID: US 6444426 B1

L5: Entry 5 of 15 File: USPT Sep 3, 2002

US-PAT-NO: 6444426
DOCUMENT-IDENTIFIER: US 6444426 B1

TITLE: Production and use of normalized DNA libraries

DATE-ISSUED: September 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Rancho Sante Fe	CA		
Mathur; Eric J.	Carlsbad	CA		

US-CL-CURRENT: 435/6; 435/440, 435/91.2, 536/25.4, 536/25.42

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

---

6. Document ID: US 6368798 B1

L5: Entry 6 of 15 File: USPT Apr 9, 2002

US-PAT-NO: 6368798
DOCUMENT-IDENTIFIER: US 6368798 B1

TITLE: Screening for novel bioactivities

DATE-ISSUED: April 9, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/6; 435/91.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

---

7. Document ID: US 6344328 B1

L5: Entry 7 of 15 File: USPT Feb 5, 2002

US-PAT-NO: 6344328
DOCUMENT-IDENTIFIER: US 6344328 B1

TITLE: Method for screening for enzyme activity

DATE-ISSUED: February 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Rancho Santa Fe	CA		

US-CL-CURRENT: 435/6; 435/91.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

---

8. Document ID: US 6280926 B1

L5: Entry 8 of 15 File: USPT Aug 28, 2001

US-PAT-NO: 6280926
DOCUMENT-IDENTIFIER: US 6280926 B1

TITLE: Gene expression library produced from DNA from uncultivated microorganisms and methods for making the same

DATE-ISSUED: August 28, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Rancho Santa Fe	CA		

US-CL-CURRENT: 435/4; 435/183, 435/6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

---

9. Document ID: US 6174673 B1

L5: Entry 9 of 15 File: USPT Jan 16, 2001

US-PAT-NO: 6174673
DOCUMENT-IDENTIFIER: US 6174673 B1

TITLE: High throughput screening for novel enzymes

DATE-ISSUED: January 16, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		
Keller; Martin	San Diego	CA		

US-CL-CURRENT: 435/6; 435/320.1, 435/440, 435/471, 435/476, 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc
Image

---

10. Document ID: US 6168919 B1

L5: Entry 10 of 15 File: USPT Jan 2, 2001

US-PAT-NO: 6168919
DOCUMENT-IDENTIFIER: US 6168919 B1

TITLE: Screening methods for enzymes and enzyme kits

DATE-ISSUED: January 2, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

WEST

Generate Collection | Print

Search Results - Record(s) 11 through 15 of 15 returned.

11. Document ID: US 6057103 A

L5: Entry 11 of 15 File: USPT May 2, 2000

US-PAT-NO: 6057103
DOCUMENT-IDENTIFIER: US 6057103 A

TITLE: Screening for novel bioactivities

DATE-ISSUED: May 2, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/6; 435/91.1, 435/91.2, 436/501, 536/23.1, 536/24.3, 536/24.31, 536/24.32, 536/24.33, 536/25.4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

12. Document ID: US 6054267 A

L5: Entry 12 of 15 File: USPT Apr 25, 2000

US-PAT-NO: 6054267
DOCUMENT-IDENTIFIER: US 6054267 A

TITLE: Method for screening for enzyme activity

DATE-ISSUED: April 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinias	CA		

US-CL-CURRENT: 435/6; 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

13. Document ID: US 6030779 A

L5: Entry 13 of 15 File: USPT Feb 29, 2000

US-PAT-NO: 6030779
DOCUMENT-IDENTIFIER: US 6030779 A

TITLE: Screening for novel bioactivities

DATE-ISSUED: February 29, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/6; 435/91.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

---

☐ 14. Document ID: US 6004788 A

L5: Entry 14 of 15 File: USPT Dec 21, 1999

US-PAT-NO: 6004788
DOCUMENT-IDENTIFIER: US 6004788 A

TITLE: Enzyme kits and libraries

DATE-ISSUED: December 21, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/183; 435/189, 435/190, 435/191, 435/193, 435/194, 435/195, 435/212, 435/232, 435/4

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

---

☐ 15. Document ID: US 5958672 A

L5: Entry 15 of 15 File: USPT Sep 28, 1999

US-PAT-NO: 5958672
DOCUMENT-IDENTIFIER: US 5958672 A

TITLE: Protein activity screening of clones having DNA from uncultivated microorganisms

DATE-ISSUED: September 28, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/4; 435/183, 435/69.1, 536/23.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

Generate Collection | Print

Terms	Documents
diversa.as. and L3	15

Display Format: - Change Format

Previous Page Next Page

L5: Entry 8 of 15 File: USPT Aug 28, 2001

US-PAT-NO: 6280926
DOCUMENT-IDENTIFIER: US 6280926 B1

TITLE: Gene expression library produced from DNA from uncultivated microorganisms and methods for making the same

DATE-ISSUED: August 28, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Rancho Santa Fe	CA		

US-CL-CURRENT: 435/4; 435/183, 435/6

CLAIMS:

What is claimed is:

1. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor eucaryotic organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host cell; and

detecting the enzymatic activity encoded by this cDNA or genomic DNA fragments.

2. The method of claim 1, wherein the enzytatic activity is selected from the group consisting of oxidoreductase, transferase, hydrolase, lyase, isomerase, and ligase activity.

3. The method of claim 1, wherein the donor eukaryotic organisms are microorganisms.

4. The method of claim 3, wherein the microcirganisms are derived from an environmental sample.

5. The method of claim 3, wherein the microorganisms are a mixed population of uncultured organisms.

6. The method of claim 1, wherein the organisms are fungi.

7. The method of claim 1, wherein the organisms are algae.

8. The method of claim 1, wherein the organisms are protozoan.

9. The method of claim 4, wherein the organisms are extremophiles.

10. The method of claim 9, wherein the organisms ate therimophiles,

hyperthermophiles, psychrophiles, or psychrotrophs.

11. The method of claim 1, wherein the host cell is a bacterial cell.

12. The method of claim 11, wherein the bacterial cell is an E. coli, Bacillus, Streptomyces, or Salmonella typhimurium cell.

13. The method of claim 1, wherein the host cell is a fungal cell.

14. The method of claim 13, wherein the fungal cell is a yeast cell.

15. The method of claim 1, wherein the host cell is a Drosophila S2 or a Spodoptera S9 cell.

16. The method of claim 1, wherein the host cell is an animal cell.

17. The method of claim 16, wherein the animal cell is a CHO, COS or Bowes melanoma cell.

18. The method of claim 1, wherein the host organism is a plant cell.

19. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constucts, each expression construct comprising a vector containing one or more cDNA or gertomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomnic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is a bacterial cell; and

detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

20. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is a fungal cell; and

detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

21. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genotnic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is a plant cell; and

detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

22. A method for identifying an enzymatic activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of

expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism, wherein the host cell is an animal cell; and detecting the enzymatic activity encoded by the cDNA or genomic DNA fragments.

L5: Entry 10 of 15 File: USPT Jan 2, 2001

US-PAT-NO: 6168919
DOCUMENT-IDENTIFIER: US 6168919 B1

TITLE: Screening methods for enzymes and enzyme kits

DATE-ISSUED: January 2, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/6; 435/183, 435/252.3, 435/320.1, 435/325, 435/4, 435/91.1, 435/91.4, 435/91.41, 536/23.1, 536/23.2, 536/23.4

CLAIMS:

What is claimed is:

1. A method for identifying clones of a recombinant library which express a protein with a desired characteristic, produced from DNA recovered from a plurality of species of organisms, comprising:

screening in the liquid phase a library of expression clones randomly produced from DNA recovered from the organisms, said screening being effected on expression products of said clones to thereby identify clones which express a protein with a desired characteristic.

2. The method of claim 1 wherein the DNA from the library of expression clones produced is gene cluster DNA.

3. The method of claim 1 wherein said protein is an enzyme.

4. A method of screening clones having DNA recovered from a plurality of species of organisms for a specified protein characteristic, which method comprises:

screening for a specified protein characteristic in a library of clones prepared by

(i) recovering DNA from a DNA population derived from a plurality of species of organisms; and

(ii) transforming a host cell with the recovered DNA to produce a library of clones which is screened for the specified protein characteristic.

5. The method of claim 4 wherein the recovered DNA is amplified.

6. The method of claim 4 wherein the recovered DNA is ligated into a vector.

7. The method of claim 6 wherein the vector into which the recovered DNA is ligated comprises at least one DNA sequence capable of regulating production of a detectable enzyme activity from said recovered DNA.

8. The method of claim 4 wherein the vector into which the recovered DNA has been

ligated is used to transform a host cell.

9. The method of claim 4 a wherein the protein is an enzyme.

End of Result Set

L5: Entry 15 of 15 File: USPT Sep 28, 1999

US-PAT-NO: 5958672
DOCUMENT-IDENTIFIER: US 5958672 A

TITLE: Protein activity screening of clones having DNA from uncultivated microorganisms

DATE-ISSUED: September 28, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/4; 435/183, 435/69.1, 536/23.1, 536/23.2

CLAIMS:

What is claimed is:

1. A method for identifying a protein activity of interest comprising:

culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor organisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism; and

detecting the protein activity encoded by the cDNA or genomic DNA fragments.

2. The method of claim 1, wherein the protein activity is an enzymatic activity.

3. The method of claim 2, wherein the enzymatic activity is selected from the group consisting of oxidoreductase, transferase, hydrolase, lyase, isomerase, and ligase activity.

4. The method of claim 1, wherein the donor organisms are microorganisms.

5. The method of claim 4, wherein the microorganisms are derived from an environmental sample.

6. The method of claim 4, wherein the microorganisms are a mixed population of uncultured organisms.

7. The method of claim 1, wherein the DNA fragment comprises one or more operons, or portions thereof.

8. The method of claim 7, wherein the operon or portions thereof encodes a complete or partial metabolic pathway.

9. A method for identifying a protein activity of interest comprising:

culturing a gene expression library, comprising a pool of expression constructs, each expression construct comprising a vector containing one or more cDNA or genomic DNA fragments, wherein the cDNA or genomic DNA fragments in the pool of expression constructs are derived from a plurality of species of donor microorganisms, and wherein the cDNA or genomic DNA fragments are each operably-associated with one or more regulatory regions that drives expression of genes encoded by the cDNA or genomic DNA fragments in an appropriate host organism; and

detecting the protein activity encoded by the cDNA or genomic DNA fragments.

10. The method of claim 9, wherein the protein activity is an enzymatic activity.

11. The method of claim 10, wherein the enzymatic activity is selected from the group consisting of oxidoreductase, transferase, hydrolase, lyase, isomerase, and ligase activity.

12. The method of claim 9, wherein the microorganisms are derived from an environmental sample.

13. The method of claim 9, wherein the microorganisms are a mixed population of uncultured organisms.

14. The method of claim 9, wherein the DNA fragment comprises one or more operons, or portions thereof.

15. The method of claim 14, wherein the operon or portions thereof encodes a complete or partial metabolic pathway.

Welcome to STN International! Enter x:x

LOGINID:ssspta1652dmr

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	Apr 08	"Ask CAS" for self-help around the clock
NEWS 3	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 4	Apr 09	ZDB will be removed from STN
NEWS 5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS 9	Jun 03	New e-mail delivery for search results now available
NEWS 10	Jun 10	MEDLINE Reload
NEWS 11	Jun 10	PCTFULL has been reloaded
NEWS 12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 15	Jul 30	NETFIRST to be removed from STN
NEWS 16	Aug 08	CANCERLIT reload
NEWS 17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18	Aug 08	NTIS has been reloaded and enhanced
NEWS 19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 28	Oct 21	EVENTLINE has been reloaded
NEWS 29	Oct 24	BEILSTEIN adds new search fields
NEWS 30	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 31	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS 32	Nov 18	DKILIT has been renamed APOLLIT
NEWS 33	Nov 25	More calculated properties added to REGISTRY
NEWS 34	Dec 02	TIBKAT will be removed from STN
NEWS 35	Dec 04	CSA files on STN

NEWS EXPRESS	October 14 CURRENT WINDOWS VERSION IS V6.01, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific

research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 18:12:06 ON 15 DEC 2002

=> index bioscience medicine
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 18:12:26 ON 15 DEC 2002

67 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view search error messages that display as 0* with SET DETAIL OFF.

=> s dna? and librar? and (screen? or test?) and clon?
```
          1   FILE ADISINSIGHT
       1191   FILE AGRICOLA
          1   FILE ANABSTR
        345   FILE AQUASCI
         81   FILE BIOBUSINESS
         16   FILE BIOCOMMERCE
       8472   FILE BIOSIS
       3141   FILE BIOTECHABS
       3141   FILE BIOTECHDS
       7550   FILE BIOTECHNO
  12 FILES SEARCHED...
       2990   FILE CABA
       2115   FILE CANCERLIT
       8341   FILE CAPLUS
        121   FILE CEABA-VTB
         29   FILE CEN
          5   FILE CIN
  20 FILES SEARCHED...
         42   FILE CROPU
          5   FILE DDFU
      10160   FILE DGENE
          3   FILE DRUGNL
         42   FILE DRUGU
  29 FILES SEARCHED...
          9   FILE DRUGUPDATES
         23   FILE EMBAL
       7144   FILE EMBASE
       3456   FILE ESBIOBASE
        981   FILE FEDRIP
         12   FILE FROSTI
        146   FILE FSTA
     401587   FILE GENBANK
  39 FILES SEARCHED...
          1   FILE HEALSAFE
        501   FILE IFIPAT
        505   FILE JICST-EPLUS
          3   FILE KOSMET
```

```
       3222   FILE LIFESCI
          1   FILE MEDICONF
<------User Break------>

=> s dna? and librar? and (screen? or test?) and clon? and (soil? or environ?)
         34   FILE AGRICOLA
         18   FILE AQUASCI
          6   FILE BIOBUSINESS
          1   FILE BIOCOMMERCE
        206   FILE BIOSIS
         95   FILE BIOTECHABS
         95   FILE BIOTECHDS
        155   FILE BIOTECHNO
  12 FILES SEARCHED...
         61   FILE CABA
         10   FILE CANCERLIT
        157   FILE CAPLUS
          3   FILE CEABA-VTB
         17   FILE CEN
          1   FILE CIN
          3   FILE CROPU
        265   FILE DGENE
  24 FILES SEARCHED...
          3   FILE EMBAL
        124   FILE EMBASE
        167   FILE ESBIOBASE
  33 FILES SEARCHED...
        181   FILE FEDRIP
          3   FILE FSTA
       4622   FILE GENBANK
  39 FILES SEARCHED...
         49   FILE IFIPAT
          3   FILE JICST-EPLUS
         68   FILE LIFESCI
        161   FILE MEDLINE
          1   FILE NIOSHTIC
          6   FILE NTIS
         13   FILE OCEAN
         91   FILE PASCAL
  50 FILES SEARCHED...
          7   FILE PHIN
         41   FILE PROMT
        111   FILE SCISEARCH
        108   FILE TOXCENTER
      13680   FILE USPATFULL
  59 FILES SEARCHED...
        159   FILE USPAT2
         63   FILE WPIDS
         63   FILE WPINDEX
         41   FILE NLDB

  39 FILES HAVE ONE OR MORE ANSWERS,   67 FILES SEARCHED IN STNINDEX

L1   QUE DNA? AND LIBRAR? AND (SCREEN? OR TEST?) AND CLON? AND (SOIL? OR ENVIRO
       N?)

=> d rank
F1       13680   USPATFULL
F2        4622   GENBANK
F3         265   DGENE
F4         206   BIOSIS
F5         181   FEDRIP
F6         167   ESBIOBASE
F7         161   MEDLINE
F8         159   USPAT2
```

```
F9          157   CAPLUS
F10         155   BIOTECHNO
F11         124   EMBASE
F12         111   SCISEARCH
F13         108   TOXCENTER
F14          95   BIOTECHABS
F15          95   BIOTECHDS
F16          91   PASCAL
F17          68   LIFESCI
F18          63   WPIDS
F19          63   WPINDEX
F20          61   CABA
F21          49   IFIPAT
F22          41   PROMT
F23          41   NLDB
F24          34   AGRICOLA
F25          18   AQUASCI
F26          17   CEN
F27          13   OCEAN
F28          10   CANCERLIT
F29           7   PHIN
F30           6   BIOBUSINESS
F31           6   NTIS
F32           3   CEABA-VTB
F33           3   CROPU
F34           3   EMBAL
F35           3   FSTA
F36           3   JICST-EPLUS
F37           1   BIOCOMMERCE
F38           1   CIN
F39           1   NIOSHTIC


=> file f1-f21
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                               4.77       4.98

FILE 'USPATFULL' ENTERED AT 18:17:40 ON 15 DEC 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'GENBANK' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'DGENE' ENTERED AT 18:17:40 ON 15 DEC 2002
COPYRIGHT (C) 2002 THOMSON DERWENT

FILE 'BIOSIS' ENTERED AT 18:17:40 ON 15 DEC 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'FEDRIP' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'ESBIOBASE' ENTERED AT 18:17:40 ON 15 DEC 2002
COPYRIGHT (C) 2002 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'MEDLINE' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'USPAT2' ENTERED AT 18:17:40 ON 15 DEC 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPLUS' ENTERED AT 18:17:40 ON 15 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'BIOTECHNO' ENTERED AT 18:17:40 ON 15 DEC 2002
```

FILE 'EMBASE' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'SCISEARCH' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'TOXCENTER' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'BIOTECHABS' ACCESS NOT AUTHORIZED

FILE 'BIOTECHDS' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'PASCAL' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'LIFESCI' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'WPIDS' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'WPINDEX' ACCESS NOT AUTHORIZED

FILE 'CABA' ENTERED AT 18:17:40 ON 15 DEC 2002

FILE 'IFIPAT' ENTERED AT 18:17:40 ON 15 DEC 2002

<------User Break------>

SEARCH ENDED BY USER

```
=> s dna? (s)librar? (s)(soil? or environ? or mix?)
   2 FILES SEARCHED...
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'DNA? (S)LIBRAR?'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'LIBRAR? (S)(SOIL?'
   8 FILES SEARCHED...
  15 FILES SEARCHED...
L2      483602 DNA? (S) LIBRAR? (S)(SOIL? OR ENVIRON? OR MIX?)

=> s l2 and hydrolas?
L3          745 L2 AND HYDROLAS?

=> dup rem l3
DUPLICATE IS NOT AVAILABLE IN 'GENBANK, DGENE, FEDRIP'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L3
L4           688 DUP REM L3 (57 DUPLICATES REMOVED)

=> s l4 and (screen? or test?)
   7 FILES SEARCHED...
  15 FILES SEARCHED...
L5          507 L4 AND (SCREEN? OR TEST?)
```

```
=> s l2 (s) (screen? or test?)
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L6  (S) '
  11 FILES SEARCHED...
  14 FILES SEARCHED...
L6        75678 L2 (S) (SCREEN? OR TEST?)

=> s l6 (s) (enzym? or hydrolas?)
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L86  (S) '
  13 FILES SEARCHED...
L7         1492 L6 (S) (ENZYM? OR HYDROLAS?)

=> dup rem l7
DUPLICATE IS NOT AVAILABLE IN 'GENBANK, DGENE, FEDRIP'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING IS APPROXIMATELY  69% COMPLETE FOR L7
PROCESSING COMPLETED FOR L7
L8         1217 DUP REM L7 (275 DUPLICATES REMOVED)

=> d his

     (FILE 'HOME' ENTERED AT 18:12:06 ON 15 DEC 2002)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA,
     CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB,
     DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 18:12:26 ON
     15 DEC 2002
               SEA DNA? AND LIBRAR? AND (SCREEN? OR TEST?) AND CLON?
              ---------
                 1   FILE ADISINSIGHT
              1191   FILE AGRICOLA
                 1   FILE ANABSTR
               345   FILE AQUASCI
                81   FILE BIOBUSINESS
                16   FILE BIOCOMMERCE
              8472   FILE BIOSIS
              3141   FILE BIOTECHABS
              3141   FILE BIOTECHDS
              7550   FILE BIOTECHNO
              2990   FILE CABA
              2115   FILE CANCERLIT
              8341   FILE CAPLUS
               121   FILE CEABA-VTB
                29   FILE CEN
                 5   FILE CIN
                42   FILE CROPU
                 5   FILE DDFU
             10160   FILE DGENE
                 3   FILE DRUGNL
                42   FILE DRUGU
                 9   FILE DRUGUPDATES
                23   FILE EMBAL
              7144   FILE EMBASE
              3456   FILE ESBIOBASE
               981   FILE FEDRIP
                12   FILE FROSTI
               146   FILE FSTA
            401587   FILE GENBANK
                 1   FILE HEALSAFE
               501   FILE IFIPAT
               505   FILE JICST-EPLUS
                 3   FILE KOSMET
              3222   FILE LIFESCI
```

```
             1   FILE MEDICONF
         10366   FILE MEDLINE
              SEA DNA? AND LIBRAR? AND (SCREEN? OR TEST?) AND CLON? AND (SOIL
              ---------
            34   FILE AGRICOLA
            18   FILE AQUASCI
             6   FILE BIOBUSINESS
             1   FILE BIOCOMMERCE
           206   FILE BIOSIS
            95   FILE BIOTECHABS
            95   FILE BIOTECHDS
           155   FILE BIOTECHNO
            61   FILE CABA
            10   FILE CANCERLIT
           157   FILE CAPLUS
             3   FILE CEABA-VTB
            17   FILE CEN
             1   FILE CIN
             3   FILE CROPU
           265   FILE DGENE
             3   FILE EMBAL
           124   FILE EMBASE
           167   FILE ESBIOBASE
           181   FILE FEDRIP
             3   FILE FSTA
          4622   FILE GENBANK
            49   FILE IFIPAT
             3   FILE JICST-EPLUS
            68   FILE LIFESCI
           161   FILE MEDLINE
             1   FILE NIOSHTIC
             6   FILE NTIS
            13   FILE OCEAN
            91   FILE PASCAL
             7   FILE PHIN
            41   FILE PROMT
           111   FILE SCISEARCH
           108   FILE TOXCENTER
         13680   FILE USPATFULL
           159   FILE USPAT2
            63   FILE WPIDS
            63   FILE WPINDEX
            41   FILE NLDB
L1            QUE DNA? AND LIBRAR? AND (SCREEN? OR TEST?) AND CLON? AND (SOIL
              ---------

     FILE 'USPATFULL, GENBANK, DGENE, BIOSIS, FEDRIP, ESBIOBASE, MEDLINE,
     USPAT2, CAPLUS, BIOTECHNO, EMBASE, SCISEARCH, TOXCENTER, BIOTECHDS,
     PASCAL, LIFESCI, WPIDS, CABA, IFIPAT' ENTERED AT 18:17:40 ON 15 DEC 2002
L2        483602 S DNA? (S)LIBRAR? (S)(SOIL? OR ENVIRON? OR MIX?)
L3           745 S L2 AND HYDROLAS?
L4           688 DUP REM L3 (57 DUPLICATES REMOVED)
L5           507 S L4 AND (SCREEN? OR TEST?)
L6         75678 S L2 (S) (SCREEN? OR TEST?)
L7          1492 S L6 (S) (ENZYM? OR HYDROLAS?)
L8          1217 DUP REM L7 (275 DUPLICATES REMOVED)

=> s l8 and hydrolas?
  15 FILES SEARCHED...
L9          100 L8 AND HYDROLAS?

=> d ti l9 1-100

L9   ANSWER 1 OF 100  USPATFULL
TI     8099, 46455, 54414, 53763, 67076, 67102, 44181, 67084FL, and 67084 alt,
```

human proteins and methods of use thereof

L9 ANSWER 2 OF 100 USPATFULL
TI Method for screening for enzyme activity

L9 ANSWER 3 OF 100 USPATFULL
TI Compositions and methods for the therapy and diagnosis of lung cancer

L9 ANSWER 4 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 5 OF 100 USPATFULL
TI PROTEIN ACTIVITY SCREENING OF CLONES HAVING DNA FROM UNCULTIVATED MICROORGANISMS

L9 ANSWER 6 OF 100 USPATFULL
TI Combinatorial screening of mixed populations of organisms

L9 ANSWER 7 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 8 OF 100 USPATFULL
TI Solid phase enzyme kinetics screening in microcolonies

L9 ANSWER 9 OF 100 USPATFULL
TI Compositions which can be used for regulating the activity of parkin

L9 ANSWER 10 OF 100 USPATFULL
TI High throughput screening for novel enzymes

L9 ANSWER 11 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 12 OF 100 USPATFULL
TI Moss genes from physcomitrella patens encoding proteins involved in the synthesis of amino acids, vitamins, cofactors, nucleotides and nucleosides

L9 ANSWER 13 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 14 OF 100 USPATFULL
TI 33167, a novel human **hydrolase** and uses therefor

L9 ANSWER 15 OF 100 USPATFULL
TI Enantioselective production of amino carboxylic acids

L9 ANSWER 16 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 17 OF 100 USPATFULL
TI 50566, a novel human glyoxalase II related factor and uses thereof

L9 ANSWER 18 OF 100 USPATFULL
TI 67118, 67067, and 62092, human proteins and methods of use thereof

L9 ANSWER 19 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 20 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 21 OF 100 USPATFULL
TI Biosensors, reagents and diagnostic applications of directed evolution

L9 ANSWER 22 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 23 OF 100 USPATFULL
TI High throughput screening for novel enzymes

L9 ANSWER 24 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucliec acids encodiing the same

L9 ANSWER 25 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 26 OF 100 USPATFULL
TI Nucleotide incorporating enzymes

L9 ANSWER 27 OF 100 USPATFULL
TI 33166, a human **hydrolase**-like molecule and uses thereof

L9 ANSWER 28 OF 100 USPATFULL
TI Aortic carboxypeptidase-like protein and nucleic acids encoding same

L9 ANSWER 29 OF 100 USPATFULL
TI 62088, a novel human nucleoside phosphatase family member and uses thereof

L9 ANSWER 30 OF 100 USPATFULL
TI Protein activity screening of clones having DNA from uncultivated microorganisms

L9 ANSWER 31 OF 100 USPATFULL
TI Novel polynucleotides from atherogenic cells and polypeptides encoded thereby

L9 ANSWER 32 OF 100 USPATFULL
TI 16105, a novel protein human phosphatase and uses therefor

L9 ANSWER 33 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 34 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 35 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 36 OF 100 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

L9 ANSWER 37 OF 100 USPATFULL
TI COMBINATORIAL ENZYME DEVELOPMENT

L9 ANSWER 38 OF 100 USPATFULL
TI Moss genes from physcomitrella patens encoding proteins involved in the synthesis of carbohydrates

L9 ANSWER 39 OF 100 USPATFULL
TI Screening methods for enzymes and enzyme kits

L9 ANSWER 40 OF 100 USPATFULL
TI Compositions, kits, and methods for identification, assessment, prevention, and therapy of psoriasis

L9 ANSWER 41 OF 100 USPATFULL
TI 33338, a novel human ubiquitin **hydrolase**-like molecule and uses thereof

L9 ANSWER 42 OF 100 USPATFULL
TI Sequence based screening

L9 ANSWER 43 OF 100 USPATFULL
TI Sequence based screening

L9 ANSWER 44 OF 100 USPATFULL
TI Method for screening for enzyme activity

L9 ANSWER 45 OF 100 USPATFULL
TI Methods for producing enantiomerically pure alpha-substituted carboxylic acids

L9 ANSWER 46 OF 100 USPATFULL
TI High throughput screening for novel enzymes

L9 ANSWER 47 OF 100 USPATFULL
TI High throughput screening for a bioactivity or biomolecule

L9 ANSWER 48 OF 100 USPATFULL
TI Integrated systems and methods for diversity generation and screening

L9 ANSWER 49 OF 100 USPATFULL
TI High throughput screening for novel enzymes

L9 ANSWER 50 OF 100 USPATFULL
TI High throughput screening for novel enzymes

L9 ANSWER 51 OF 100 USPATFULL
TI Gene expression library produced from DNA from uncultivated microorganisms and methods for making the same

L9 ANSWER 52 OF 100 USPATFULL
TI Form of dipeptidylpeptidase IV (CD26) found in human serum, antibodies thereto, and uses thereof

L9 ANSWER 53 OF 100 USPATFULL
TI High throughput screening for novel enzymes

L9 ANSWER 54 OF 100 USPATFULL
TI Screening methods for enzymes and enzyme kits

L9 ANSWER 55 OF 100 USPATFULL
TI Production of recombinant polypeptides by bovine species and transgenic methods

L9 ANSWER 56 OF 100 USPATFULL
TI Production of recombinant polypeptides by bovine species and transgenic methods

L9 ANSWER 57 OF 100 USPATFULL
TI Method for screening for enzyme activity

L9 ANSWER 58 OF 100 USPATFULL
TI Transgenic bovines and milk from transgenic bovines

L9 ANSWER 59 OF 100 USPATFULL
TI Methods of screening for compounds that derepress or increase telomerase activity

L9 ANSWER 60 OF 100 USPATFULL
TI Protein activity screening of clones having DNA from uncultivated microorganisms

L9 ANSWER 61 OF 100 USPATFULL
TI Thermally stable para-nitrobenzyl esterases

L9 ANSWER 62 OF 100 USPATFULL
TI Production of enzymes having desired activities by mutagenesis

L9 ANSWER 63 OF 100 USPATFULL
TI Solid phase enzyme kinetics screening in microcolonies

L9 ANSWER 64 OF 100 USPATFULL
TI Para-nitrobenzyl esterases with enhanced activity in aqueous and nonaqueous media

L9 ANSWER 65 OF 100 USPATFULL
TI Method for screening for agents which increase telomerase activity in a cell

L9 ANSWER 66 OF 100 USPATFULL
TI Transgenic bovine

L9 ANSWER 67 OF 100 USPATFULL
TI Para-nitrobenzyl esterases with enhanced activity in aqueous and nonaqueous media

L9 ANSWER 68 OF 100 USPATFULL
TI Aspergillus expression system

L9 ANSWER 69 OF 100 USPATFULL
TI Therapy and diagnosis of conditions related to telomere length and/or telomerase activity

L9 ANSWER 70 OF 100 USPATFULL
TI Method of producing a transgenic bovine or transgenic bovine embryo

L9 ANSWER 71 OF 100 USPATFULL
TI Alkaline proteolytic enzyme and method of production

L9 ANSWER 72 OF 100 DGENE (C) 2002 THOMSON DERWENT
TI Identifying bioactivities or biomolecules by screening clones from a gene library generated from more than one organism -

L9 ANSWER 73 OF 100 DGENE (C) 2002 THOMSON DERWENT
TI Identifying bioactivities or biomolecules by screening clones from a gene library generated from more than one organism -

L9 ANSWER 74 OF 100 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI HUMAN ARYLSULFATASE B MOPAC CLONING NUCLEOTIDE SEQUENCE OF A FULL-LENGTH COMPLEMENTARY DNA AND REGIONS OF AMINO ACID IDENTITY WITH ARYLSULFATASES A AND C.

L9 ANSWER 75 OF 100 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

TI ISOLATION OF A COMPLEMENTARY DNA CLONE FOR THE HUMAN LYSOSOMAL PROTEINASE CATHEPSIN B.

L9 ANSWER 76 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI MICRODISSECTED CATARACTOUS LENSES

L9 ANSWER 77 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI DEVELOPMENT OF NOVEL OPH-BASED MATERIALS FOR DETOXIFICATION OF ORGANOPHOSPHATE PESTICIDES

L9 ANSWER 78 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI ROLE OF YEAST VACUOLAR TREHALASE IN FREEZE, DEHYDRATION AND ETHANOL TOLERANCE

L9 ANSWER 79 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI BACTERIAL MINERALIZATION OF ATRAZINE AS A MODEL FOR HERBICIDE BIODEGRADATION

L9 ANSWER 80 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI DETOXIFICATION OF POLYCHLORINATED BIPHENYL-CONTAMINATED **ENVIRONMENTS** WITH TRANSGENIC PLANTS

L9 ANSWER 81 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI CLONING AND EXPRESSION OF BACTERIAL CHITINASE GENES FOR CONTROL OF AFLATOXIN-PRODUCING FUNGI

L9 ANSWER 82 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI The Biochemical Basis for Resistance of Cotton To Pathogens and Pests

L9 ANSWER 83 OF 100 FEDRIP COPYRIGHT 2002 NTIS
TI Role of PE in the Programmed Release of Cells from the Root Cap of Higher Plants

L9 ANSWER 84 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Producing recombinant polynucleotides useful in biochemical studies, comprises conducting a polymerization with multi-cyclic extension reactions with unidirectional single-stranded polynucleotide fragments as templates;
recombinant protein production via plasmid expression in host cell for DNA library, enzyme, antibody, vaccine, and hormone screening

L9 ANSWER 85 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Obtaining bioactivity/biomolecule of interest by screening library of clones generated from nucleic acids from mixed cell population, and variegating nucleic acids to create novel biomolecule/bioactivity of interest;
DNA sequence isolation bacterium DNA library screening and cloning and polymerase chain reaction

L9 ANSWER 86 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Identifying polynucleotide in liquid phase comprises contacting polynucleotides derived from organism with nucleic acid probe labelled with detectable molecule and identifying polynucleotide;
labeled DNA probe and DNA library for DNA detection and high throughput screening

L9 ANSWER 87 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Identifying bioactivities or biomolecules by screening clones from a gene library generated from more than one organism;
enzyme identification using high throughput screening of Streptomyces venezuelae, Escherichia coli, Actinomyces sp. DNA library

L9 ANSWER 88 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI New isolated PAP1 or PAP2 gene, useful for increasing pigmentation in plants, as reporter genes for analyzing expression pattern of promoter of

interest, and to increase flux through phenylpropanoid pathway;
plasmid pSK1015 and Agrobacterium tumefaciens-mediated lycopene, sesamin, sesamolin, acetosyringone, basta-resistance, pap1 and pap2 gene transfer for Arabidopsis thaliana, tomato and sesame transgenic plant construction andpropagation

L9 ANSWER 89 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Producing functional, combinatorial expression library, useful e.g. for producing mosaic enzymes with altered properties, comprises transforming yeast with library and expression vector;
the use of combinatorial library, vector expression in recombinant fungus, DNA probe and DNA primer useful for enzyme production

L9 ANSWER 90 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Visualizing reactions, used for the detection of enzymes such as a lipase, protease or esterase and DNA encoding them;
recombinant enzyme production via vector-mediated gene transfer and expression in host cell and a detection method using a pH indicator for monitoring reaction

L9 ANSWER 91 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Molecular and enzymatic characterization of a maltogenic amylase that hydrolyzes and transglycosylates acarbose;
alpha-amylase from Bacillus stearothermophilus ET1 cloned and expressed in Escherichia coli

L9 ANSWER 92 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI The gene encoding a novel alkaline xylanase from alkaliphilic Bacillus sp. strain 41M-1;
alkaline endo-1,4-beta-D-xylanase gene cloning and expression in Escherichia coli (conference abstract)

L9 ANSWER 93 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI The aryldialkylphosphatase-encoding gene adpB from Nocardia sp. strain B-1: cloning, sequencing and expression in Escherichia coli;
preparation of parathion-**hydrolase** involved in insecticide pesticide degradation

L9 ANSWER 94 OF 100 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Walk-through mutagenesis of protein;
by introducing a predetermined amino acid in each position of functional domain; oligonucleotide site-directed mutagenesis and enzyme engineering or catalytic antibody protein engineering

L9 ANSWER 95 OF 100 WPIDS (C) 2002 THOMSON DERWENT
TI Obtaining bioactivity/biomolecule of interest by screening library of clones generated from nucleic acids from mixed cell population, and variegating nucleic acids to create novel biomolecule/bioactivity of interest.

L9 ANSWER 96 OF 100 WPIDS (C) 2002 THOMSON DERWENT
TI Identifying polynucleotide in liquid phase comprises contacting polynucleotides derived from organism with nucleic acid probe labelled with detectable molecule and identifying polynucleotide.

L9 ANSWER 97 OF 100 WPIDS (C) 2002 THOMSON DERWENT
TI Producing functional, combinatorial expression library, useful e.g. for producing mosaic enzymes with altered properties, comprises transforming yeast with library and expression vector.

L9 ANSWER 98 OF 100 WPIDS (C) 2002 THOMSON DERWENT
TI Controlling cellular, organismal phenotypes comprises recombining conjoint polynucleotide segments to produce recombinant concatamer library which is expressed in cells and screened to identify cells with desired phenotype.

L9 ANSWER 99 OF 100 WPIDS (C) 2002 THOMSON DERWENT
TI Method for generating a gene library enriched in DNA encoding a polypeptide with an activity of interest e.g. enzyme, hormone or toxin from microorganisms isolated from an animal stomach or insect gut.

L9 ANSWER 100 OF 100 WPIDS (C) 2002 THOMSON DERWENT
TI DNA shuffling methods improve mycotoxin detoxification genes for use in agricultural and industrial processes to degrade mycotoxins.

L4 ANSWER 182 OF 193 USPATFULL
TI Genetically engineered glutaminase and its use in antiviral and anticancer therapy

L4 ANSWER 183 OF 193 USPATFULL
TI Microorganism genomics, compositions and methods related thereto

L4 ANSWER 184 OF 193 USPATFULL
TI Genetically engineered glutaminase and its use in antiviral and anticancer therapy

L4 ANSWER 185 OF 193 USPATFULL
TI Microorganism genomics, compositions and methods related thereto

L4 ANSWER 186 OF 193 MEDLINE
TI Burkholderia pseudomallei virulence: definition, stability and association with clonality.

L4 ANSWER 187 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Solubilization of hydroxyapatite by Enterobacter agglomerans and cloned Escherichia coli in culture medium.

L4 ANSWER 188 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Purification and cloning of a bacterial cocaine-esterase, a potential enzyme for a cocaine biosensor;
carboxylesterase production, purification and cloning from Rhodococcus sp. for drug analysis (conference abstract)

L4 ANSWER 189 OF 193 AGRICOLA
TI Construction of Rhodococcus random mutagenesis libraries using Tn5 transposition complexes.

L4 ANSWER 190 OF 193 AGRICOLA
TI A novel gene encoding a 54 kDa polypeptide is essential for butane utilization by Pseudomonas sp. IMT37.

L4 ANSWER 191 OF 193 USPATFULL
TI Soluble zalpha11 cytokine receptors

L4 ANSWER 192 OF 193 USPATFULL
TI Screening for novel bioactivities

L4 ANSWER 193 OF 193 USPATFULL
TI Homogeneous luminescence assay method based on energy transfer

=> sort l4 py, a
SORT ENTIRE ANSWER SET? (Y)/N:y
PROCESSING COMPLETED FOR L4
L5 193 SORT L4 PY A

=> d ti l5 1-193

L5 ANSWER 1 OF 193 WPIDS (C) 2002 THOMSON DERWENT
TI Screening of fungal DNA library, esp. humicola insolens - by transforming into yeast to isolate enzymes such as cellulase(s), lipase(s), protease(s) or isomerase(s).

L5 ANSWER 2 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 3 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 4 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 5 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 6 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 7 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 8 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 9 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 10 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 11 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 12 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 13 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 14 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 15 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 16 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.

L5 ANSWER 17 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Xylanase gene sequences - obtd. by recovering DNA from soil samples and PCR amplification using primers based on xylanase genes

L5 ANSWER 18 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Xylanase gene sequences - obtd. by recovering DNA from soil samples and PCR amplification using primers based on xylanase genes

L5 ANSWER 19 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI New soybean peroxidase genes - useful, e.g. in pulp and paper bleaching, on site waste destruction and soil remediation

L5 ANSWER 20 OF 193 WPIDS (C) 2002 THOMSON DERWENT
TI Screening for metabolic pathways, useful to provide for the biological production of chemicals, antibacterials and other anti-infectives, using cells which provide a signal in the presence of a compound produced by the pathway.

L5 ANSWER 21 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Isolating high molecular weight DNA from natural sources such as soil, fresh and salt water involves preparing aqueous suspension of sample, emulsifying with organic solvent and precipitating the DNA -

L5 ANSWER 22 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Isolating high molecular weight DNA from natural sources such as soil, fresh and salt water involves preparing aqueous suspension of sample, emulsifying with organic solvent and precipitating the DNA -

L5 ANSWER 23 OF 193 WPIDS (C) 2002 THOMSON DERWENT
TI Screening for bacterial nucleic acids encoding a target for lytic proteins, useful for identifying antibiotic lytic proteins.

L5 ANSWER 24 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 25 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 26 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 27 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 28 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 29 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 30 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 31 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 32 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Composition for detecting or amplifying bacterial extracellular peptidase gene, for identifying new enzymes and genes, comprises oligonucleotide primers and probes -

L5 ANSWER 33 OF 193 WPIDS (C) 2002 THOMSON DERWENT
TI Generating chimeric nucleic acids to produce therapeutics comprises hybridizing nucleic acids and nicking and elongating regions that are non-hybridized.

L5 ANSWER 34 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 35 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 36 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 37 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 38 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 39 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 40 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 41 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 42 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 43 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 44 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 45 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 46 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 47 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 48 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 49 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 50 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 51 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 52 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 53 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 54 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 55 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 56 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 57 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 58 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 59 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 60 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 61 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 62 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 63 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 64 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 65 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 66 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 67 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 68 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 69 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 70 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 71 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 72 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 73 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 74 OF 193 DGENE (C) 2002 THOMSON DERWENT
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes -

L5 ANSWER 75 OF 193 WPIDS (C) 2002 THOMSON DERWENT
TI Identifying polynucleotide in liquid phase comprises contacting polynucleotides derived from organism with nucleic acid probe labelled with detectable molecule and identifying polynucleotide.

L5 ANSWER 76 OF 193 WPIDS (C) 2002 THOMSON DERWENT
TI New isolated or recombinant Bcl-B nucleic acids and polypeptides, for treating a disorder associated with apoptosis, such as cell degenerative or proliferative disorder e.g. cancer, Alzheimer's disease or Parkinson's disease.

L5 ANSWER 77 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI New isolated nucleic acid encoding dimethylallyltryptophan synthase (DmaW molecule) from fungi that are symbionts of commercially important grasses, useful to engineer ergot alkaloid-deficient symbionts;
fungus recombinant enzyme gene, vector expression in host cell, and polymerase chain reaction for endophyte identification and ergot alkaloid increasing

L5 ANSWER 78 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Triaryl cation antibiotics from environmental DNA;
turbomycin-A and -B production by isolation from soil using bacterium artificial chromosome

L5 ANSWER 79 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Novel recombinant Botrytis cinerea laccase protein (BcLCC2 protein) which converts the phytoalexin resveratrol into fungitoxic compounds, useful for protecting plants against animals and microbial pests;
vector-mediated gene transfer and expression in host cell for recombinant protein production and potential fungicide or antibiotic manufacture

L5 ANSWER 80 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Novel isolated DNA molecule encoding protein having biological activity of histone acetyltransferase which is useful for screening histone acetyltransferase inhibitors that serve as insecticides and acaricides;
vector expression in host cell for recombinant protein gene useful for screening enzyme-inhibitor

L5 ANSWER 81 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Isolating gene for root hair curling from Rhizobium japonicum;
and expression in Rhizobium meliloti

L5 ANSWER 82 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Identifying unculturable microorganisms involves identifying the DNA sequence of bacterial cells from an environmental sample which is compared with DNA databases to identify the DNA sequence of unculturable/known microorganisms;
hydrocarbon-contaminated soil bacterium gene expression profiling using DNA microarray, DNA chip and database

L5 ANSWER 83 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI S-adenosylmethionine-synthase gene;
used for construction of a transgenic plant with alkali soil resistance

L5 ANSWER 84 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI New isolated xylanase DNA sequences;
endo-1,4-beta-D-xylanase gene isolation from soil or a phage DNA library by polymerase chain reaction using a DNA primer set, or by DNA probe hybridization

L5 ANSWER 85 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Diketo-D-gluconic acid reductases, isolated from the environment using polymerase chain reaction methods, useful to provide new catalysts with desirable traits for industrial processes;
plasmid-mediated recombinant mutant enzyme gene transfer and expression in Escherichia coli or Pantoea sp. for ascorbic acid production

L5 ANSWER 86 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Isolation and purification of DNAs of microorganism origin;
DNA purification by cell lysis and electrophoresis

L5 ANSWER 87 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI A new aldolase gene derived from a Nicotiana sp. plant;
Nicotiana paniculata aldolase, useful for imparting osmotolerance to plants

L5 ANSWER 88 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI A new INPS gene derived from a Nicotiana sp. plant;
Nicotiana paniculata INPS for imparting osmotolerance to plants

L5 ANSWER 89 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI A new potassium channel gene derived from a Nicotiana sp. plant;
Nicotiana paniculata potassium ion channel for imparting osmotolerance to plants

L5 ANSWER 90 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI A new gene derived from a Nicotiana sp. plant;
Nicotiana paniculata protein for imparting osmotolerance and salt tolerance to plants

L5 ANSWER 91 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Novel isolated polypeptide having 2,5-diketo-D-gluconic acid permease activity, useful for increasing 2-keto-L-gulonic acid bioproduction, and thus ascorbic acid production;
recombinant enzyme gene production and characterization, vector expression in bacterium for ketogulonic acid production enhancement

L5 ANSWER 92 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Identifying polynucleotide in liquid phase comprises contacting polynucleotides derived from organism with nucleic acid probe labelled with detectable molecule and identifying polynucleotide;
labeled DNA probe and DNA library for DNA detection and high throughput screening

L5 ANSWER 93 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI New plant proteins involved in plant apoptosis, useful for identifying other apoptotic pathway proteins, and to modulate apoptosis in a plant;
disease-resistance transgenic plant construction, vector expression in host cell, antibody, promoter, antisense, database and computer bioinformatic software

L5 ANSWER 94 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI

TI New DNA encoding metal-binding protein from plants, useful in altering metal distribution in plants, e.g. to increase growth, and for purification of recombinant proteins;
vector-mediated gene transfer, expression in transgenic plant or plant cell and propagation for recombinant protein production, heavy metal recovery, soil decontamination, phytoremediation and waste-watertreatment

L5 ANSWER 95 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI New yellow stripe1 and yellow stripe1-like genes, useful for altering the distribution of iron within the plant body so that edible parts of crop plants have more iron, or for producing plants useful in enhancing iron uptake from soil;
vector-mediated gene transfer and expression in plant host cell for transgenic plant construction, metal recovery and phytoremediation

L5 ANSWER 96 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI New DNA encoding cytochrome CYP76B1 from Helianthus tuberosus, useful for preparing transgenic plants resistant to phenylurea herbicides;
Agrobacterium tumefaciens vector plasmid pBDX-mediated gene transfer and expression in Saccharomyces cerevisiae or plant cell for use in transgenic plant construction, herbicide resistance, soil decontamination, groundwater decontamination and pharmaceutical and cosmetic industry

L5 ANSWER 97 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Screening ligand library comprises allowing binding of ligand with anti-target, contacting unbound ligands with selected target to form target-bound ligand complex and identifying target bound ligands on the complex;
vector-mediated recombinant protein gene transfer and expression in Escherichia coli for ligand identification for use in gene therapy vector selective delivery, drug delivery and diagnosis

L5 ANSWER 98 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Recombinant nicotinamine-aminotransferase protein and DNA;
useful for enhancing iron absorbtion of plant cells

L5 ANSWER 99 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Thermostable galactose isomerase with high enzymatic activity for producing tagatose from galactose useful as an additive of detergents, cosmetics and pharmaceuticals;
vector-mediated thermostable galactose-isomerase gene transfer and expression in host cell for recombinant protein production and sugar preparation

L5 ANSWER 100 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Novel polypeptides having peroxidase activity for polymerizing lignin, in situ depolymerization of lignin in Kraft pulp, oxidizing dyes and for polymerizing or oxidizing phenolic compound in liquids in juice treatment;
involving vector plasmid pBM-mediated gene transfer for expression in host cell, antibody, for use in lignin polymerization, transgenic plant construction, food industry, soil decontamination and pharmaceuticalindustry

L5 ANSWER 101 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Bioremediative microorganism for dechlorinating chlorinated biphenyls and for bioremediation, comprises a specific 16S ribosomal subunit nucleic acid sequence;
and useful for halogenated hydrocarbon degradation, surfactant degradation and soil decontamination

L5 ANSWER 102 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Screening costramid libraries for chromosomal genes: an alternative

interspecific hybridization method;
reduction of background hybridization by using stringent replication vector pRK7813 for Rhizobium sp. NGR234

L5 ANSWER 103 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI A DNA PROBE SPECIFIC FOR SEROLOGICALLY DIVERSE STRAINS OF ERWINIA-CAROTOVORA.

L5 ANSWER 104 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Transposon Tn5-259 mutagenesis of Pseudomonas cepacia to isolate mutants deficient in antifungal activity;
isolation of pyrrolnitrin-deficient mutant; development of a genetic manipulation system for a biological control agent

L5 ANSWER 105 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI SUPPRESSION OF ROOT DISEASES BY PSEUDOMONAS-FLUORESCENS CHA0 IMPORTANCE OF THE BACTERIAL SECONDARY METABOLITE 2 4 DIACETYLPHLOROGLUCINOL.

L5 ANSWER 106 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Isolation and use of a species-specific clone for the identification of the rhabditid entomopathogenic nematode Steinernema feltiae (Filipjev, 1934.

L5 ANSWER 107 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI The gene encoding a novel alkaline xylanase from alkaliphilic Bacillus sp. strain 41M-1;
alkaline endo-1,4-beta-D-xylanase gene cloning and expression in Escherichia coli (conference abstract)

L5 ANSWER 108 OF 193 MEDLINE
TI Cloning and sequencing of the genes involved in glyphosate utilization by Pseudomonas pseudomallei.

L5 ANSWER 109 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI A DNA probe for identification of Pythium irregulare in soil.

L5 ANSWER 110 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Cloning and expression of a beta-1,4-endoglucanase gene from Cellulomonas sp. CelB7 in Escherichia coli; purification and characterization of the recombinant enzyme;
cellulase gene cloning

L5 ANSWER 111 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI 1-Aminocyclopropane-1-carboxylate-deaminase genes from Pseudomonas strains;
gene cloning for use in ethene biosynthesis inhibition for fruit crop improvement

L5 ANSWER 112 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Identification of Erwinia carotovora subsp. atroseptica with a non-radioactive DNA probe.

L5 ANSWER 113 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Symbiotic competence, genetic diversity and plasmid profiles of Egyptian isolates of a Rhizobium species from Leucaena leucocephala (Lam.) Dewit.

L5 ANSWER 114 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Cloning of the genes for the oxygenase and ferredoxin components of dicamba-O-demethylase from Pseudomonas maltophilia, strain DI-6;
potential pesticide degradation (conference abstract)

L5 ANSWER 115 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Purification and cloning of a bacterial cocaine-esterase, a potential enzyme for a cocaine biosensor;
carboxylesterase production, purification and cloning from Rhodococcus

sp. for drug analysis (conference abstract)

L5 ANSWER 116 OF 193 MEDLINE
TI Analysis of ammonia-oxidizing bacteria of the beta subdivision of the class Proteobacteria in coastal sand dunes by denaturing gradient gel electrophoresis and sequencing of PCR-amplified 16S ribosomal DNA fragments.

L5 ANSWER 117 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Solubilization of hydroxyapatite by Enterobacter agglomerans and cloned Escherichia coli in culture medium.

L5 ANSWER 118 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Cloning of a gene encoding EDTA-monooxygenase from the EDTA-degrading bacterium BNC1;
using DNA primer, polymerase chain reaction and plasmid pCR2.1; application in soil decontamination (conference abstract)

L5 ANSWER 119 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Construction of environmental DNA libraries and screening for anaerobic utilization of 4-hydroxybutyrate by recombinant Escherichia coli strains;
DNA library construction and 4-hydroxybutyrate degradation for soil decontamination (conference abstract)

L5 ANSWER 120 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Molecular and enzymatic characterization of a maltogenic amylase that hydrolyzes and transglycosylates acarbose;
alpha-amylase from Bacillus stearothermophilus ET1 cloned and expressed in Escherichia coli

L5 ANSWER 121 OF 193 USPATFULL
TI Creba Isoform

L5 ANSWER 122 OF 193 USPATFULL
TI Method for isolating xylanase gene sequences from soil DNA, compositions useful in such method and compositions obtained thereby

L5 ANSWER 123 OF 193 MEDLINE
TI Association of marine archaea with the digestive tracts of two marine fish species.

L5 ANSWER 124 OF 193 MEDLINE
TI Characterization of the dominant and rare members of a young Hawaiian soil bacterial community with small-subunit ribosomal DNA amplified from DNA fractionated on the basis of its guanine and cytosine composition.

L5 ANSWER 125 OF 193 MEDLINE
TI Fot 1 insertions in the Fusarium oxysporum f. sp. albedinis genome provide diagnostic PCR targets for detection of the date palm pathogen.

L5 ANSWER 126 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Cloning of a chitinase gene of Xanthomonas sp. isolated from soil and its expression in E. coli.

L5 ANSWER 127 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI The development of a rapid PCR assay for detection of Fusarium moniliforme.

L5 ANSWER 128 OF 193 BIOTECHNO COPYRIGHT 2002 Elsevier Science B.V.
TI Analysis of gossypol and related terpenoids in antisense transgenic cotton plants

L5 ANSWER 129 OF 193 USPATFULL
TI Enzyme kits and libraries

L5 ANSWER 130 OF 193 USPATFULL
TI Homogeneous luminescence assay method based on energy transfer

L5 ANSWER 131 OF 193 USPATFULL
TI CREBA isoform

L5 ANSWER 132 OF 193 MEDLINE
TI Methanotroph diversity in landfill soil: isolation of novel type I and type II methanotrophs whose presence was suggested by culture-independent 16S ribosomal DNA analysis.

L5 ANSWER 133 OF 193 MEDLINE
TI Construction of environmental DNA libraries in Escherichia coli and screening for the presence of genes conferring utilization of 4-hydroxybutyrate.

L5 ANSWER 134 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Molecular basis of antifungal toxin production by fluorescent Pseudomonas sp. strain EM 85: A biological control agent.

L5 ANSWER 135 OF 193 USPATFULL
TI Screening for novel bioactivities

L5 ANSWER 136 OF 193 MEDLINE
TI Sequencing and characterization of a novel serine metalloprotease from Burkholderia pseudomallei.

L5 ANSWER 137 OF 193 MEDLINE
TI PCR primers that amplify fungal rRNA genes from environmental samples.

L5 ANSWER 138 OF 193 MEDLINE
TI A novel Cellvibrio mixtus family 10 xylanase that is both intracellular and expressed under non-inducing conditions.

L5 ANSWER 139 OF 193 MEDLINE
TI Screening of environmental DNA libraries for the presence of genes conferring lipolytic activity on Escherichia coli.

L5 ANSWER 140 OF 193 MEDLINE
TI Assessment of microbial diversity in four southwestern United States soils by 16S rRNA gene terminal restriction fragment analysis.

L5 ANSWER 141 OF 193 MEDLINE
TI Cloning the soil metagenome: a strategy for accessing the genetic and functional diversity of uncultured microorganisms.

L5 ANSWER 142 OF 193 MEDLINE
TI Heteroduplex resolution using T7 endonuclease I in microbial community analyses.

L5 ANSWER 143 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Evolution of bacterial diversity during enrichment of PCP-degrading activated soils.

L5 ANSWER 144 OF 193 CAPLUS COPYRIGHT 2002 ACS
TI Long-Chain N-Acyl Amino Acid Antibiotics Isolated from Heterologously Expressed Environmental DNA

L5 ANSWER 145 OF 193 BIOTECHNO COPYRIGHT 2002 Elsevier Science B.V.
TI Cloning of .beta.-mannanase gene from Aeromonas sp. in E. coli

L5 ANSWER 146 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Cloning, sequence analysis, and expression in Escherichia coli of the gene encoding monovalent cation-activated levodione-reductase from Corynebacterium aquaticum M-13;

purification and characterization of the recombinant enzyme, and use in stereospecific reaction for actinol production

L5 ANSWER 147 OF 193 USPATFULL
TI Triaryl cation antibiotics from environmental DNA

L5 ANSWER 148 OF 193 USPATFULL
TI High throughput screening for a bioactivity or biomolecule

L5 ANSWER 149 OF 193 USPATFULL
TI Genetically engineered glutaminase and its use in antiviral and anticancer therapy

L5 ANSWER 150 OF 193 USPATFULL
TI Method for isolation of biosynthesis genes for bioactive molecules

L5 ANSWER 151 OF 193 USPATFULL
TI Nuclear receptor polypeptide ZPPAR4

L5 ANSWER 152 OF 193 USPATFULL
TI Microorganism genomics, compositions and methods related thereto

L5 ANSWER 153 OF 193 USPATFULL
TI Template-specific termination in a polymerase chain reaction

L5 ANSWER 154 OF 193 USPATFULL
TI Creba isoform

L5 ANSWER 155 OF 193 USPATFULL
TI Screening methods for enzymes and enzyme kits

L5 ANSWER 156 OF 193 MEDLINE
TI DNA-based and culture-based characterization of a hydrocarbon-degrading consortium enriched from Arctic soil.

L5 ANSWER 157 OF 193 MEDLINE
TI Screening of environmental DNA libraries for the presence of genes conferring Na(+)(Li(+))/H(+) antiporter activity on Escherichia coli: characterization of the recovered genes and the corresponding gene products.

L5 ANSWER 158 OF 193 MEDLINE
TI A novel gene encoding a 54 kDa polypeptide is essential for butane utilization by Pseudomonas sp. IMT37.

L5 ANSWER 159 OF 193 MEDLINE
TI Construction of Rhodococcus random mutagenesis libraries using Tn5 transposition complexes.

L5 ANSWER 160 OF 193 MEDLINE
TI Expression and isolation of antimicrobial small molecules from soil DNA libraries.

L5 ANSWER 161 OF 193 MEDLINE
TI Rapid extraction and purification of environmental DNA for molecular cloning applications and molecular diversity studies.

L5 ANSWER 162 OF 193 MEDLINE
TI Burkholderia pseudomallei virulence: definition, stability and association with clonality.

L5 ANSWER 163 OF 193 MEDLINE
TI Single primer pair for PCR identification of Candida parapsilosis group I isolates.

L5 ANSWER 164 OF 193 MEDLINE
TI An advanced molecular strategy to identify bacterial communities on art objects.

L5 ANSWER 165 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Specific microbial groups respond during substrate-induced respiration (SIR<SIGR) assays in soil.

L5 ANSWER 166 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Exploring uncultivated soil microorganisms for natural products drug discovery.

L5 ANSWER 167 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Isolation of leptospiral genes encoding antigens recognized by the human humoral immune system during leptospirosis.

L5 ANSWER 168 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI The diversity of archaea and bacteria in association with the roots of Zea mays L.

L5 ANSWER 169 OF 193 CAPLUS COPYRIGHT 2002 ACS
TI Cloning large-size genomic libraries from soil microbes via DNA extraction, size-fractionation, restriction digestion, and transformation

L5 ANSWER 170 OF 193 CABA COPYRIGHT 2002 CABI
TI The glyoxylate cycle in an arbuscular mycorrhizal fungus. Carbon flux and gene expression.

L5 ANSWER 171 OF 193 AGRICOLA
TI Construction of Rhodococcus random mutagenesis libraries using Tn5 transposition complexes.

L5 ANSWER 172 OF 193 AGRICOLA
TI A novel gene encoding a 54 kDa polypeptide is essential for butane utilization by Pseudomonas sp. IMT37.

L5 ANSWER 173 OF 193 BIOTECHNO COPYRIGHT 2002 Elsevier Science B.V.
TI Differential diagnosis of Taenia saginata and Taenia solium infections: From DNA probes to polymerase chain reaction

L5 ANSWER 174 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
TI Isomaltulose synthase from Klebsiella sp strain LX3: Gene cloning and characterization and engineering of thermostability;
involving expression in Escherichia coli, site-directed mutagenesis and for use in sucrose conversion to isomaltulose, trehalulose, glucose and fructose

L5 ANSWER 175 OF 193 PASCAL COPYRIGHT 2002 INIST-CNRS. ALL RIGHTS RESERVED.
TIEN Differential diagnosis of Taenia saginata and Taenia solium infections: from DNA probes to polymerase chain reaction
Molecular tools for epidemiological studies and diagnosis of leishmaniasis and selected other parasitic diseases

L5 ANSWER 176 OF 193 USPATFULL
TI Combinatorial screening of mixed populations of organisms

L5 ANSWER 177 OF 193 USPATFULL
TI Soluble zalpha11 cytokine receptors

L5 ANSWER 178 OF 193 USPATFULL
TI Method for isolation of biosynthesis genes for bioactive molecules

L5 ANSWER 179 OF 193 USPATFULL
TI Binary BAC vector and uses thereof

L5 ANSWER 180 OF 193 USPATFULL
TI Method for isolation of xylanase gene sequences from soil DNA, compositions useful in such method and compositions obtained thereby

L5 ANSWER 181 OF 193 USPATFULL
TI Method for genome mining for secreted protein genes

L5 ANSWER 182 OF 193 USPATFULL
TI Genetically engineered glutaminase and its use in antiviral and anticancer therapy

L5 ANSWER 183 OF 193 USPATFULL
TI Screening methods for enzymes and enzyme kits

L5 ANSWER 184 OF 193 USPATFULL
TI Enzyme kits and libraries

L5 ANSWER 185 OF 193 USPATFULL
TI Microorganism genomics, compositions and methods related thereto

L5 ANSWER 186 OF 193 USPATFULL
TI Metabolic selection methods

L5 ANSWER 187 OF 193 USPATFULL
TI Sequence based screening

L5 ANSWER 188 OF 193 USPATFULL
TI Sequence based screening

L5 ANSWER 189 OF 193 MEDLINE
TI Differential diagnosis of Taenia saginata and Taenia solium infections: from DNA probes to polymerase chain reaction.

L5 ANSWER 190 OF 193 MEDLINE
TI Isolation and characterization of a cDNA encoding a mammalian cathepsin L-like cysteine proteinase from Acanthamoeba healyi.

L5 ANSWER 191 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Identification of novel Crenarchaeota and Euryarchaeota clusters associated with different depth layers of a forest soil.

L5 ANSWER 192 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Effects of Pseudomonas putida WCS358r and its genetically modified phenazine producing derivative on the Fusarium population in a field experiment, as determined by 18S rDNA analysis.

L5 ANSWER 193 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Genetic basis for the unique root-colonizing activity of Pseudomonas fluorescens Q8r1-96.

=> d l5 1-4 ibib abs

L5 ANSWER 1 OF 193 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1993-197067 [24] WPIDS
DOC. NO. CPI: C1993-087373
TITLE: Screening of fungal DNA library, esp. humicola insolens - by transforming into yeast to isolate enzymes such as cellulase(s), lipase(s), protease(s) or isomerase(s).
DERWENT CLASS: B04 C06 D16 D25
INVENTOR(S): DALBOGE, H; HELDT-HANSEN, H P; RASMUSSEN, G; DALBGE, H; DALBOEGE, H
PATENT ASSIGNEE(S): (NOVO) NOVO-NORDISK AS
COUNTRY COUNT: 23

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9311249	A1	19930610	(199324)*	EN	47
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: BR CA FI JP KR US					
FI 9402644	A	19940603	(199431)		
EP 618974	A1	19941012	(199439)	EN	
R: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE					
BR 9206866	A	19951121	(199604)		
JP 08504560	W	19960521	(199646)		47

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9311249	A1	WO 1992-DK360	19921202
FI 9402644	A	WO 1992-DK360	19921202
		FI 1994-2644	19940603
EP 618974	A1	WO 1992-DK360	19921202
		EP 1993-900092	19921202
BR 9206866	A	BR 1992-6866	19921202
		WO 1992-DK360	19921202
JP 08504560	W	JP 1992-509731	19921202
		WO 1992-DK360	19921202

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 618974	A1	Based on	WO 9311249
BR 9206866	A	Based on	WO 9311249
JP 08504560	W	Based on	WO 9311249

PRIORITY APPLN. INFO: WO 1991-DK379 19911204; WO 1991-DK378 19911204

AN 1993-197067 [24] WPIDS

AB WO 9311249 A UPAB: 20000508

Screening for a DNA sequence encoding a protein of interest (I) comprises: (a) cloning a DNA library from an organism suspected or producing one or more (I) types into vectors, (b) transforming yeast hosts with the vectors, (c) culturing the host cells to express the DNA, and (d) screening for positive clones by determining any activity of (I).

Also claimed are: (1) prodn. of (I) in a heterologous host cell by transforming the cell with DNA encoding (I) isolated as above, and recovering (I) from the culture; (2) an enzyme with cellulase activity which has the following characteristics: (a) DNA encoding it is isolated from a DNA library of Humicola insolens, (b) this DNA has at least one of 6 defined nucleotide sequences; (c) the enzyme has a cellulose binding domain, and (d) the enzyme has endocellulase activity in the presence of linear alkyl benzene sulphonate; and (3) a detergent additive or cpd. comprising this enzyme.

USE/ADVANTAGE - The method allows the **screening** of fungal **DNA libraries** for desirable (I). Allows a large number of different protein activities to be identified quickly using the same **library**. It is more efficient to use yeast for this method, as 500-1000 yeast yeast colonies may be grown on a plate, compared to only 10-50 of the previously-used filamentous fungi. Enzymes which may be identified include: cellulytic enzmes, e.g. beta-glucosidases; pectinolytic enzymes, e.g. amylases; esterases, e.g. lipases; proteases; oxidoreductases, e.g. peroxidases; or isomerases, e.g. glucose isomerase. The detergent compsn. may take several forms, e.g. detergent powder compsns., nonaq. liquids or liquid compact detergents. They may also contain fabric conditioners, bleaching agents, anti-corrosion agents,

soil suspending agents, optical brighteners or foam depressors. The additive may further include other enzymes, e.g. a protease lipase, peroxidase or amylase.
Dwg.0/2

L5 ANSWER 2 OF 193 DGENE (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: AAW17975 Protein DGENE
TITLE: New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.
INVENTOR: Brown K M; Halkier T; Kauppinen S; Yaver D S
PATENT ASSIGNEE: (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PATENT INFO: WO 9708325 A2 19970306 62p
APPLICATION INFO: WO 1996-US13728 19960820
PRIORITY INFO: US 1995-2800 19950825
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 1997-179282 [16]
AN AAW17975 Protein DGENE
AB The present sequence encodes a novel laccase, lcc2, isolated from Coprinus cinereus strain IFO 8371. This polypeptide is used to polymerise a lignin or lignosulphate in solution; for in situ depolymerisation of Kraft pulp; for oxidising dyes or their precursors (particularly to prevent dye transfer between fabrics and in hair dyeing) and for polymerising or oxidising phenolic compounds (e.g. to precipitate phenolics from fruit juices to give a more stable product). It can also be used for **soil** detoxification. Use of the polypeptide avoids the need to use chlorine for lignin depolymerisation. It has better activity than known laccases under the alkaline conditions usually encountered in papermaking processes. A cDNA **library** from IFO 8371 was prepared and subjected to PCR with oligonucleotides based on the conserved motifs in other fungal laccases. The amplification product was cloned and 7 subclones were produced and sequenced. They correspond to 3 different laccases designated lcc1, 2 and 3. To isolate full-length **DNA**, a genomic **DNA library** of IFO 8371 was constructed. A digoxigenin-labelled probe was prepared by PCR using lcc1 cDNA as a template and 32P-labelled probes from lcc2 and 3 partial cDNA. These probes were used to **screen** the genomic **library** and two clones were isolated, one containing the lcc1 gene and the other containing the lcc3 gene. No single clone contained the complete lcc2 gene which was isolated from two partial clones.

L5 ANSWER 3 OF 193 DGENE (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: AAW17974 Protein DGENE
TITLE: New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.
INVENTOR: Brown K M; Halkier T; Kauppinen S; Yaver D S
PATENT ASSIGNEE: (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PATENT INFO: WO 9708325 A2 19970306 62p
APPLICATION INFO: WO 1996-US13728 19960820
PRIORITY INFO: US 1995-2800 19950825
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 1997-179282 [16]
AN AAW17974 Protein DGENE
AB The present sequence represents a novel laccase, lcc3, isolated from Coprinus cinereus strain IFO 8371. This polypeptide is used to polymerise a lignin or lignosulphate in solution; for in situ depolymerisation of Kraft pulp; for oxidising dyes or their precursors (particularly to prevent dye transfer between fabrics and in hair dyeing) and for polymerising or oxidising phenolic compounds (e.g. to precipitate phenolics from fruit juices to give a more stable product). It can also

be used for **soil** detoxification. Use of the polypeptide avoids the need to use chlorine for lignin depolymerisation. It has better activity than known laccases under the alkaline conditions usually encountered in papermaking processes. A cDNA **library** from IFO 8371 was prepared and subjected to PCR with oligonucleotides based on the conserved motifs in other fungal laccases. The amplification product was cloned and 7 subclones were produced and sequenced. They correspond to 3 different laccases designated lcc1, 2 and 3. To isolate full-length **DNA**, a genomic **DNA library** of IFO 8371 was constructed. A digoxigenin-labelled probe was prepared by PCR using lcc1 cDNA as a template and 32P-labelled probes from lcc2 and 3 partial cDNA. These probes were used to **screen** the genomic **library** and two clones were isolated, one containing the lcc1 gene and the other containing the lcc3 gene. No single clone contained the complete lcc2 gene which was isolated from two partial clones. N.B. The sequence presented in this record is the same as the version supplied electronically to the European Patent Office; it differs from the sequence printed in Figure 2 of the specification.

L5 ANSWER 4 OF 193 DGENE (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: AAW17973 Protein DGENE
TITLE: New laccase from Coprinus strains - useful for polymerising lignin, depolymerising Kraft pulp, oxidising dyes and their precursors, etc.
INVENTOR: Brown K M; Halkier T; Kauppinen S; Yaver D S
PATENT ASSIGNEE: (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PATENT INFO: WO 9708325 A2 19970306 62p
APPLICATION INFO: WO 1996-US13728 19960820
PRIORITY INFO: US 1995-2800 19950825
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 1997-179282 [16]
AN AAW17973 Protein DGENE
AB The present sequence represents a novel laccase, lcc1, isolated from Coprinus cinereus strain IFO 8371. This polypeptide is used to polymerise a lignin or lignosulphate in solution; for in situ depolymerisation of Kraft pulp; for oxidising dyes or their precursors (particularly to prevent dye transfer between fabrics and in hair dyeing) and for polymerising or oxidising phenolic compounds (e.g. to precipitate phenolics from fruit juices to give a more stable product). It can also be used for **soil** detoxification. Use of the polypeptide avoids the need to use chlorine for lignin depolymerisation. It has better activity than known laccases under the alkaline conditions usually encountered in papermaking processes. A cDNA **library** from IFO 8371 was prepared and subjected to PCR with oligonucleotides based on the conserved motifs in other fungal laccases. The amplification product was cloned and 7 subclones were produced and sequenced. They correspond to 3 different laccases designated lcc1, 2 and 3. To isolate full-length **DNA**, a genomic **DNA library** of IFO 8371 was constructed. A digoxigenin-labelled probe was prepared by PCR using lcc1 cDNA as a template and 32P-labelled probes from lcc2 and 3 partial cDNA. These probes were used to **screen** the genomic **library** and two clones were isolated, one containing the lcc1 gene and the other containing the lcc3 gene. No single clone contained the complete lcc2 gene which was isolated from two partial clones. N.B. The sequence presented in this record is the same as the version supplied electronically to the European Patent Office; it differs from the sequence printed in Figure 1 of the specification.

=> d l5 ibib abs 17 75 78 82 119 118 126 133 136 139 143 144 145 166 172 176 180

L5 ANSWER 17 OF 193 DGENE (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: AAT63569 DNA DGENE

TITLE: Xylanase gene sequences - obtd. by recovering DNA from soil samples and PCR amplification using primers based on xylanase genes
INVENTOR: Radomski C C A; Seow K T; Warren R A J; Yap W H
PATENT ASSIGNEE: (TERR-N)TERRAGEN DIVERSITY INC.
PATENT INFO: WO 9712991 A1 19970410 34p
APPLICATION INFO: WO 1996-CA627 19960920
PRIORITY INFO: US 1995-4157 19950922
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 1997-226234 [20]
AN AAT63569 DNA DGENE
AB 20 Xylanase gene fragments (AAT63550-69) were amplified from **soil DNA** using degenerate primers (AAT63548 and AAT63549) based on conserved regions of F family cellulases, or by **screening** a **soil DNA library** using a probe generated using these primers. The recovered xylanase gene fragments, or portions of them, can be used as probes to isolate the corresponding intact novel xylanase genes. They may also be incorporated into known xylanase genes to produce recombinant genes having the sequence variations of the recovered **DNA**. A full-length novel xylanase gene (AAT63571) was identified in a **soil DNA library**.

L5 ANSWER 75 OF 193 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-340184 [37] WPIDS
CROSS REFERENCE: 1999-095351 [08]; 2001-146289 [15]; 2001-367710 [38]; 2002-017124 [02]; 2002-017125 [02]; 2002-017215 [02]; 2002-194904 [25]; 2002-239225 [29]; 2002-697263 [75]
DOC. NO. CPI: C2002-097844
TITLE: Identifying polynucleotide in liquid phase comprises contacting polynucleotides derived from organism with nucleic acid probe labelled with detectable molecule and identifying polynucleotide.
DERWENT CLASS: A89 B04 D15 D16
INVENTOR(S): LAFFERTY, W M; KELLER, M; SHORT, J M
PATENT ASSIGNEE(S): (DIVE-N) DIVERSA CORP; (LAFF-I) LAFFERTY W M
COUNTRY COUNT: 97
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002031203	A2	20020418	(200237)*	EN	228
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
US 2002048809	A1	20020425	(200245)		
AU 2002011642	A	20020422	(200254)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2002031203	A2		WO 2001-US31806	20011010
US 2002048809	A1	CIP of	US 1997-876276	19970616
		Cont of	US 1998-98206	19980616
		CIP of	US 1999-444112	19991122
		CIP of	US 2000-636778	20000811
		CIP of	US 2000-687219	20001012
			US 2001-790321	20010221
AU 2002011642	A		AU 2002-11642	20011010

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002011642 A	Based on	WO 200231203

PRIORITY APPLN. INFO: US 2001-309101P 20010731; US 2000-685432 20001010; US 2000-738871 20001215; US 2001-790321 20010221; US 2001-894956 20010627; US 1997-876276 19970616; US 1998-98206 19980616; US 1999-444112 19991122; US 2000-636778 20000811; US 2000-687219 20001012

AN 2002-340184 [37] WPIDS

CR 1999-095351 [08]; 2001-146289 [15]; 2001-367710 [38]; 2002-017124 [02]; 2002-017125 [02]; 2002-017215 [02]; 2002-194904 [25]; 2002-239225 [29]; 2002-697263 [75]

AB WO 200231203 A UPAB: 20021125

NOVELTY - Identifying a polynucleotide in a liquid phase comprises contacting polynucleotides derived from at least one organism with at least one nucleic acid probe labelled with detectable molecule so that the probe is hybridized to the polynucleotides having complementary sequences and identifying a polynucleotide with an analyzer to detect the detectable molecule.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) identifying a polynucleotide encoding a polypeptide which comprises coencapsulating in a microenvironment a library of clones containing DNA obtained from a mixed population of organisms with a mixture of oligonucleotide probes comprising a detectable label and at least a part of a polynucleotide sequence encoding a polypeptide having a specified bioactivity under conditions and for a time to allow interaction of complementary sequences and identifying clones containing a complement to the oligonucleotide probe encoding the polypeptide by separating clones with an analyzer to detect the detectable label;

(2) high throughput screening of a polynucleotide library for a polynucleotide that encodes a molecule which comprises contacting a library containing clones comprising polynucleotides derived from a mixed population of organisms with oligonucleotides probes labelled with a detectable molecule and separating clones with an analyzer to detect the molecule;

(3) screening for a polynucleotide encoding an activity which comprises:

(a) normalizing polynucleotides obtained from an environmental sample;

(b) generating a library from the polynucleotides;

(c) contacting the library with oligonucleotide probes comprising a detectable label and at least a part of a polynucleotide sequence encoding a polypeptide having a specified activity to select library clones positive for a sequence and

(d) selecting clones with an analyzer to detect the label;

(4) screening polynucleotides which comprises contacting a library of polynucleotides derived from a mixed population of organisms with a probe oligonucleotide labelled with a fluorescence molecule which fluoresces upon binding of the probe to a target polynucleotide of the library to select library polynucleotides positive for a sequence, separating library members that are positive for the sequence with a fluorescent analyzer to detect fluorescence and expressing the selected polynucleotides to obtain polypeptides;

(5) obtaining an organism from a mixed population of organisms in a sample which comprises encapsulating at least one organism from the sample in a microenvironment, incubating under conditions and for a time to allow the organism to grow or proliferate and sorting the organism by a flow cytometer;

(6) identifying a bioactivity or biomolecule which comprises transferring a library containing clones comprising polynucleotides

derived from a mixed population of organisms to a first host cell, contacting the cell with a second host cell containing a detectable reporter molecule in a microenvironment and separating clones with an analyzer to detect the molecule;

(7) identifying a bioactivity or biomolecule which comprises transferring a library containing clones comprising polynucleotides derived from a mixed population of organisms to a first host cell, contacting the cell with a second host cell containing a detectable reporter molecule in a microenvironment and optionally separating clones with an analyzer to detect the molecule;

(8) identifying a bioactivity or biomolecule which comprises transferring the extract of a library containing clones comprising polynucleotides derived from a mixed population of organisms to a first host cell and contacting the extract with a second host cell containing a detectable reporter molecule;

(9) identifying a bioactivity or biomolecule which comprises transferring the extract of a library containing clones comprising polynucleotides derived from a mixed population of organisms through a column, transferring the extract to a first host cell, contacting the extract with a second host cell containing a detectable reporter molecule and measuring the mass spectra of the host cell with the extract;

(10) a sample screening apparatus which comprises an array of capillaries comprising at least one wall defining a lumen for retaining a sample, interstitial material between capillaries and at least one reference indicia formed within the interstitial material;

(11) a capillary for screening a sample which comprises a first wall defining a lumen for retaining the sample and forming a waveguide for propagating detectable signals and a second wall formed of a filtering material for filtering excitation energy to the lumen to excite the sample;

(12) a capillary array for screening samples which comprises capillaries as above;

(13) incubating a bioactivity or biomolecule which comprises introducing a first component into at least a part of a capillary of a capillary array, introducing air into the capillary behind the first component and introducing a second component into the capillary;

(14) incubating a sample which comprises introducing a first liquid labelled with a detectable particle into a capillary of a capillary array, optionally with at least one wall coated with a binding material, submersing one end of the capillary into a fluid bath containing a second liquid and evaporating the first liquid;

(15) incubating a sample which comprises introducing a liquid labelled with a detectable particle into a capillary of a capillary array, introducing paramagnetic beads to the liquid and exposing the capillary containing the beads to a magnetic field;

(16) recovering a sample from one capillary in an array which comprises determining a coordinate position of a recovery tool, detecting a coordinate location of a capillary containing the sample, correlating, via relative movement between the recovery tool and the capillary containing the sample, the coordinate position of the recovery tool with the location of the capillary and contacting the capillary and recovery tool;

(17) a recovery apparatus which comprises a recovery tool to contact at least one capillary and recover a sample and an ejector, connected with the recovery tool, for ejecting the sample from the tool;

(18) a sample screening apparatus which comprises capillaries in an array, interstitial material and at least one reference indicia formed within the interstitial material, and

(19) enriching a polynucleotide encoding an activity which comprises contacting a mixed population of polynucleotides derived from a mixed population of organisms with at least one nucleic acid probe.

USE - Used for screening for polynucleotides, proteins and small molecules using high throughput of multiple samples.

ADVANTAGE - Rapid sorting and screening of libraries from a mixed population of organisms may be effected.

Dwg.0/23

L5 ANSWER 78 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2002-04466 BIOTECHDS
TITLE: Triaryl cation antibiotics from environmental DNA; turbomycin-A and -B production by isolation from soil using bacterium artificial chromosome
AUTHOR: Handelsman J E; Goodman R M; Gillespie D E; Bettermann A D; Clardy J C; Brady S F
PATENT ASSIGNEE: Wisconsin-Alumni-Res.Found.
LOCATION: Madison, WI, USA.
PATENT INFO: WO 2001081307 1 Nov 2001
APPLICATION INFO: WO 2001-US13312 25 Apr 2001
PRIORITY INFO: US 2001-791961 23 Feb 2001; US 2000-558712 26 Apr 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-066425 [09]
AN 2002-04466 BIOTECHDS
AB Triaryl methane cationic antibiotic (I) and (II), or their salts are claimed. Also claimed are: a pharmaceutical composition for treating microbial or fungal infections involving using a compound of formula (I) or (II); an isolated protein sequence (I) with 350 amino acids in length; and an isolated polynucleotide encoding a protein of sequence (I). The above compounds have antibiotic, antiseptic or phytoncide, fungicide or virucide activity. In an example, a 25,000-member bacterial artificial chromosome (BAC) **library** of **DNA** from **soil** was **screened** for the production of colored compounds, and a clone, P57-G4, that produced a dark brown melanin-like color was identified. The methanol extract of the acid precipitate from the culture medium of P57-G4 contained elevated levels of 2 triaryl, cationic compounds that were given the trivial names turbomycin-A and -B. The compounds can be used for treating bacterial or fungal infections caused by Erwinia Herbicola, Escherichia coli, Salmonella typhimurium, Bacillus cereus, Bacillus subtilis, Staphylococcus aureus, Streptococcus pyogenes, Streptococcus pyogenes, Streptomyces griseus or Candida guilliermondii. (49pp)

L5 ANSWER 82 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2002-14865 BIOTECHDS
TITLE: Identifying unculturable microorganisms involves identifying the DNA sequence of bacterial cells from an environmental sample which is compared with DNA databases to identify the DNA sequence of unculturable/known microorganisms; hydrocarbon-contaminated soil bacterium gene expression profiling using DNA microarray, DNA chip and database
AUTHOR: KILBANE J J
PATENT ASSIGNEE: GAS TECHNOLOGY INST
PATENT INFO: WO 2002027025 4 Apr 2002
APPLICATION INFO: WO 2000-US29825 25 Sep 2000
PRIORITY INFO: US 2001-960698 21 Sep 2001
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-426027 [45]
AN 2002-14865 BIOTECHDS
AB DERWENT ABSTRACT:
NOVELTY - Identifying (M1) unculturable microorganisms (A) involves isolating a bacterial cell from an environmental sample comprising several (A), from which a **DNA** fragment is amplified, cloned into an Escherichia coli vector, and sequenced resulting in identification of **DNA** sequence (DS), and comparing DS with existing **DNA** databases, resulting in identification of DS as one of an unculturable (A) and a known (A).
BIOTECHNOLOGY - Preferred Method: The **DNA** fragment is amplified by polymerase chain reaction (PCR) using at least one universal primer which is: (a) an oligonucleotide of arbitrary sequence comprising

8-20 base pairs; or (b) one of high-GC content primer and high-AT content primer. A pair of at least one universal primers comprises two primers such as a high-GC content primer, high-AT content primer or their mixture. At least one universal primer comprises a random mixture of oliognucleotides with a common length and differing in DS. The method further involves identifying at least one DS suitable for use as a species-specific DS and, using the species-specific **DNA** probe, a hybridization probe/**DNA** chip array, and one PCR primer pair suitable for targeting at least one unique DS is prepared. The method preferably involves subjecting additional environmental samples to at least one condition, obtaining at least one of total **DNA** and/or total RNA from the additional environmental samples, and using the species-specific **DNA** probe in methods such as PCR, reverse transcriptase (RT)-PCR or microarray hybridization/gene expression, resulting in generation of data concerning responses of unculturable (A) to the at least one condition. Several **DNA** fragments of various lengths are derived from multiple loci throughout a chromosome of the unculturable (A). At least one fluorescent dye is used to differentially stain several (A) which are subsequently processed by flow cytometry and cell sorting to produce at least two sub-populations that differ in terms of at least one of species composition and species relative abundance from the environmental sample. At least one of the sub-populations is: (a) subjected to dilution culture experiments utilizing several bacterial growth media, resulting in growth of at least one species of previously unculturable (A); (b) subjected to genetic analysis to detect and analyze 16S ribosomal RNA (rRNA) sequences to obtain improved data regarding the biodiversity of the environmental sample; or (c) used to prepare at least one genomic **library** or the further processed by fluorescence activated cell sorting (FACS) to obtain at least one individual bacterial cell. Preferred Probe: The species-specific **DNA** probe comprises 20-2000 base pairs and PCR primers used to amplify the species-specific DS comprises 20-50 base pairs. Preferred Bacterial Cell: The bacterial cell is isolated from the environmental sample with a micromanipulator, or by flow cytometry.

USE - The method is useful for identifying unculturable microorganisms (claimed) which enables the study of such unculturable microorganisms in their natural environment.

ADVANTAGE - The method enables the study of unculturable microorganisms in their natural environmental conditions, which allows for a better appreciation of the contributions of these microorganisms to **soil** ecology, and provides the potential for growing such microorganisms in the laboratory. The method is applicable to the study of all unculturable microorganisms, and also allows the genes to be studied directly in their natural hosts, so that achieving expression of the gene will be easy and the mechanisms of the gene regulation and cell physiology can be studied in a way that would be impossible with Escherichia coli or other bacterial species. The **DNA** sequences comprise hundreds, if not thousands of kilobases of **DNA** sequence data that provide a much more thorough sampling of the genome of the unculturable microorganism species which, in turn, allows multiple species-specific **DNA** probes to be designed targeting many genes in that species.

EXAMPLE - An environmental sample derived from the saturated zone of a hydrocarbon-contaminated site was processed to obtain a cell suspension which was then subjected to flow cytometry/cell sorting after staining with the lipid-staining dye fluorescein dihexadecylphosphatidylethanolman ine (DHPE) to yield two populations of cells, low fluorescence and high fluorescence. preferably a dye that selectively binds to GC-rich **DNA** was used. It was found that about 12-14% of the total cell population was stained with this dye, but to varying degrees. The gating parameters of the cell sorting device were adjusted to stringent conditions to allow only the most intensely stained cells in the mixture, which comprised about 1% of the total cell population, to be separated as a discreet sub-population of bacterial cells. This mixture of cells was subsequently further sorted to isolate individual bacterial cells, which

were then placed in individual **test** tubes/wells. The cells were lysed to release chromosomal **DNA** which was then subjected to polymerase chain reaction (PCR) using a 10-mer oligonucleotide as a primer. The amplified **DNA** fragments were then cloned into Escherichia coli vectors and the **DNA** sequence of each **DNA** fragment determined. These **DNA** sequences were then compared with the **DNA** sequences of all characterized microorganisms to determine if these **DNA** sequences originate from previously unculturable microorganisms and to define specific **DNA** regions/sequences that can be sued as species-specific probes for each species of unculturable microorganism studied. These species-specific **DNA** sequences were then used in hybridization experiments to analyze the effects of various environmental parameters on the growth and activity of individual species of unculturable microorganisms. (26 pages)

L5 ANSWER 119 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 1999-01276 BIOTECHDS
TITLE: Construction of environmental DNA libraries and screening for anaerobic utilization of 4-hydroxybutyrate by recombinant Escherichia coli strains;
DNA library construction and 4-hydroxybutyrate degradation for soil decontamination (conference abstract)
AUTHOR: Henne A; Daniel R; Schmitz R A; Gottschalk G
CORPORATE SOURCE: Univ.Gottingen-Georg-August
LOCATION: Institut fuer Mikrobiologie und Genetik der Georg-August-Universitaet Gottingen, Grisebachstrasse 8, 37077 Gottingen, Germany.
SOURCE: Abstr.Gen.Meet.Am.Soc.Microbiol.; (1998) 98 Meet., 473
CODEN: 0005P
ISSN: 0067-2777
98th General Meeting of the American Society for Microbiology, Atlanta, GA, USA, 17-21 May, 1998.
DOCUMENT TYPE: Journal
LANGUAGE: English
AN 1999-01276 BIOTECHDS
AB In order to exploit genetic diversity, **DNA libraries** of several environments were constructed. **DNA** was extracted from various **soil** samples by lysis with high-salt extraction buffer and extended heating in the presence of SDS. The final purification was performed with the Wizard Plus Minipreps **DNA** purification system. The purified **DNA** was partially digested with BamHI or Sau3AI, ligated in plasmid pBluescript SK and transformed into Escherichia coli. The resulting recombinant E. coli strains were **screened** on tetrazolium indicator plates for the utilization of 4-hydroxybutyrate (4-HB). 6 Of approximately 270,000 clones were positive. These clones showed a slower growth rate on 4-HB than E. coli JM109/plasmid pCK1, which harbors the gene encoding 3-HB and 4-HB dehydrogenase from Clostridium kluyveri. Enzymatic analysis revealed enzyme activity in the crude extracts of the recombinant strains. The inserts of the plasmids isolated from these strains were sequenced. The deduced gene products exhibited no significant similarity to any other known protein. (0 ref)

L5 ANSWER 118 OF 193 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 1999-01283 BIOTECHDS
TITLE: Cloning of a gene encoding EDTA-monooxygenase from the EDTA-degrading bacterium BNC1;
using DNA primer, polymerase chain reaction and plasmid pCR2.1; application in soil decontamination (conference abstract)
AUTHOR: Payne J W; Markillie L M; Bolton Jr H; Xun L
CORPORATE SOURCE: Univ.Washington-State; Pacific-Northwest-Lab.
LOCATION: Department of Microbiology, Washington State University, Pullman, WA, USA.

SOURCE: Abstr.Gen.Meet.Am.Soc.Microbiol.; (1998) 98 Meet., 477
CODEN: 0005P
ISSN: 0067-2777
98th General Meeting of the American Society for Microbiology, Atlanta, GA, USA, 17-21 May, 1998.
DOCUMENT TYPE: Journal
LANGUAGE: English
AN 1999-01283 BIOTECHDS
AB A gene encoding EDTA-monooxygenase was cloned from the EDTA-degrading bacterium BNC1. A **DNA** probe specific for the gene was generated using degenerate **DNA** primers and polymerase chain reaction (PCR). Primers were designed by aligning sequences of enzymes similar to EDTA-monooxygenase. PCR using BCN1 genomic **DNA** produced a product of the correct size (129 bp) that was cloned into vector plasmid pCR2.1. The insert sequence was determined. The translated protein sequence showed high similarity to the alignment, especially to nitriloacetate-monooxygenase (79% identity). A genomic **library** for BNC1 was generated used the phage lambda-DASH vector, and plaques were **screened** using a 32P-labeled probe. Secondary **screening** using PCR of phage plate lysates identified a positive clone. Subsequent PCR of digested lambda clone **DNA** has identified specific fragments containing the target area of the gene. A 3.5 kb BamHI fragment has been targeted for subcloning and sequencing. Thus, the above may be used for **soil** decontamination. (0 ref)

L5 ANSWER 126 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:479506 BIOSIS
DOCUMENT NUMBER: PREV199800479506
TITLE: Cloning of a chitinase gene of Xanthomonas sp. isolated from soil and its expression in E. coli.
AUTHOR(S): Won, Hwang Cher (1); Sang, Kim Ho; Young, Seong Ki; Young, Eun Moo
CORPORATE SOURCE: (1) Dep. Environ. Microbiol., Handong Univ., Pohang, Kyeoung buk South North Korea
SOURCE: Agricultural Chemistry and Biotechnology, (April, 1998) Vol. 41, No. 2, pp. 125-129.
ISSN: 0368-2897.
DOCUMENT TYPE: Article
LANGUAGE: Korean
SUMMARY LANGUAGE: Korean; English
AB Xanthomonas sp. isolated from **soil** exhibited cell wall lytic activity of Candida albicans and secreted chitinase in chitin media. Especially, the chitinase activity was induced by chitin and reached a maximum level at 3 days culture in chitin media. We constructed genomic **library** of Xanthomonas sp. using cosmid vector in E. coli. Oligonucleotide probe was synthesized from the consensus sequence corresponding to chitinase active site, which was derived from the comparison of amino acid sequences of bacterial chitinase genes. Using this oligonucleotide probe, we **screened** the genomic **library**. By restriction enzyme mapping of the positive clones, we identified 4 independent clones which may contain the chitinase gene. One of the clones, named pXCH1 (1.2 kb insert), was further analyzed. Northern blot analysis indicated that its transcripts, 1 kb and 0.8 kb, were induced by chitin. When the cloned gene was induced by IFTG in E. coli cell, chitinase activity which was secreted onto culture media was not observed. However, when the cell was disrupted by using sonicator and then centrifuged, the supernatant exhibited chitinase activity. SDS-PAGE of the supernatant indicated that about 35 kDa protein was induced by IPTG. From these results, it was concluded that the cloned **DNA** was one of the chitinase genes of Xanthomonas sp.

L5 ANSWER 133 OF 193 MEDLINE
ACCESSION NUMBER: 1999402727 MEDLINE
DOCUMENT NUMBER: 99402727 PubMed ID: 10473393
TITLE: Construction of environmental DNA libraries in Escherichia

coli and screening for the presence of genes conferring utilization of 4-hydroxybutyrate.
AUTHOR: Henne A; Daniel R; Schmitz R A; Gottschalk G
CORPORATE SOURCE: Abteilung Allgemeine Mikrobiologie, Institut fur Mikrobiologie und Genetik der Georg-August-Universitat, 37077 Gottingen, Germany.
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1999 Sep) 65 (9) 3901-7.
Journal code: 7605801. ISSN: 0099-2240.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF148264; GENBANK-AF148265; GENBANK-AF148266
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991223

AB Environmental **DNA libraries** from three different **soil** samples were constructed. The average insert size was 5 to 8 kb and the percentage of plasmids with inserts was approximately 80%. The recombinant Escherichia coli strains (approximately 930,000) were **screened** for 4-hydroxybutyrate utilization. Thirty-six positive E. coli clones were obtained during the initial **screen**, and five of them contained a recombinant plasmid (pAH1 to pAH5) which conferred a stable 4-hydroxybutyrate-positive phenotype. These E. coli clones were studied further. All five were able to grow with 4-hydroxybutyrate as sole carbon and energy source and exhibited 4-hydroxybutyrate dehydrogenase activity in crude extracts. Sequencing of pAH5 revealed a gene homologous to the gbd gene of Ralstonia eutropha, which encodes a 4-hydroxybutyrate dehydrogenase. Two other genes (orf1 and orf6) conferring utilization of 4-hydroxybutyrate were identified during subcloning and sequencing of the inserts of pAH1 and pAH3. The deduced orf1 gene product showed similarities to members of the DedA family of proteins. The sequence of the deduced orf6 gene product harbors the fingerprint pattern of enoyl-coenzyme A hydratases/isomerases. The other sequenced inserts of the plasmids recovered from the positive clones revealed no significant similarity to any other gene or gene product whose sequence is available in the National Center for Biotechnology Information databases.

L5 ANSWER 136 OF 193 MEDLINE
ACCESSION NUMBER: 2001113055 MEDLINE
DOCUMENT NUMBER: 20496876 PubMed ID: 11040430
TITLE: Sequencing and characterization of a novel serine metalloprotease from Burkholderia pseudomallei.
AUTHOR: Lee M A; Liu Y
CORPORATE SOURCE: Defence Medical Research Institute, Clinical Research Centre, NUS, 10 Medical Drive #02-04, 117597, Singapore.. nmiv13@nus.edu.sg
SOURCE: FEMS MICROBIOLOGY LETTERS, (2000 Nov 1) 192 (1) 67-72.
Journal code: 7705721. ISSN: 0378-1097.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF254803
ENTRY MONTH: 200102
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215

AB Burkholderia pseudomallei, a Gram-negative bacterium is found in the **soil** and water, mainly in Southeast Asia and Northern Australia. It is responsible for melioidosis in human and animals. The bacteria produce several potential virulent factors such as extracellular protease, hemolysin, lipase and lecithinase. The isolation of virulence genes and

the study of their functions will contribute to our understanding of bacterial pathogenesis. Previous studies have implicated protease as a contributing virulence factor in the pathogenesis of some bacteria. Three out of 5000 clones **screened** from a genomic **DNA library** of B. pseudomallei were found to express protease activity. The clones were found to have the same sequence. The nucleotide sequence revealed an open reading frame (designated as metalloprotease A, mprA) encoding a 500-amino acid protein, MprA, with an estimated molecular mass of 50241 Da. The predicted amino acid sequence shares homology with the subtilisin family of serine proteases.

L5 ANSWER 139 OF 193 MEDLINE
ACCESSION NUMBER: 2000424098 MEDLINE
DOCUMENT NUMBER: 20336470 PubMed ID: 10877816
TITLE: Screening of environmental DNA libraries for the presence of genes conferring lipolytic activity on Escherichia coli.
AUTHOR: Henne A; Schmitz R A; Bomeke M; Gottschalk G; Daniel R
CORPORATE SOURCE: Abteilung Allgemeine Mikrobiologie, Institut fur Mikrobiologie und Genetik der Georg-August-Universitat, 37077 Gottingen, Germany.
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (2000 Jul) 66 (7) 3113-6.
Journal code: 7605801. ISSN: 0099-2240.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF223645; GENBANK-AF223646; GENBANK-AF223647; GENBANK-AF223648
ENTRY MONTH: 200009
ENTRY DATE: Entered STN: 20000915
Last Updated on STN: 20000915
Entered Medline: 20000907

AB Environmental **DNA libraries** prepared from three different **soil** samples were **screened** for genes conferring lipolytic activity on Escherichia coli clones. **Screening** on triolein agar revealed 1 positive clone out of 730,000 clones, and **screening** on tributyrin agar revealed 3 positive clones out of 286,000 E. coli clones. Substrate specificity analysis revealed that one recombinant strain harbored a lipase and the other three contained esterases. The genes responsible for the lipolytic activity were identified and characterized.

L5 ANSWER 143 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:40457 BIOSIS
DOCUMENT NUMBER: PREV200100040457
TITLE: Evolution of bacterial diversity during enrichment of PCP-degrading activated soils.
AUTHOR(S): Beaulieu, M.; Becaert, V.; Deschenes, L.; Villemur, R. (1)
CORPORATE SOURCE: (1) Institut Armand-Frappier-Microbiologie et Biotechnologie, INRS, 531 Boulevard des Prairies, Laval, PQ, H7V 1B7: richard.villemur@inrs-iaf.uquebec.ca Canada
SOURCE: Microbial Ecology, (November, 2000) Vol. 40, No. 4, pp. 345-355. print.
ISSN: 0095-3628.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The microbiota of completely mixed **soil** slurry was acclimated with pentachlorophenol (PCP) or with a wood preservative mixture (WPM) containing several pollutants such as PCP and petroleum hydrocarbons. The impact of these compounds on the bacterial diversity was studied by using molecular tools. PCR amplifications of the 16S ribosomal RNA gene sequences (rDNA) were carried out with total **DNA** extracted from **soil** slurry samples taken at different time points during the

enrichment process of the PCP and WPM reactors. The composition of these PCR products, reflecting the bacterial diversity, was monitored by the single-strand-conformation polymorphism (SSCP) method. Our results showed that the complexity of the SSCP profiles in the PCP reactor decreased significantly during the enrichment process, whereas they remained complex in the WPM reactor. PCR-amplified 16S rDNA **libraries** were generated from each reactor. The SSCP method was used to rapidly **screen** several clones of these **libraries** to find specific single-strand **DNA** migration profiles. In the PCP-activated **soil**, 96% of examined clones had the same SSCP profile, and sequences of representative clones were related to the genus Sphingomonas, suggesting that the enrichment with PCP resulted in a selection of little phylogenetic diversity. Four different SSCP profiles were observed with the 68 examined clones from the WPM reactor. Representative clones of these profiles were related to Methylocystaceae or Rhizobiaceae, to sulfur-oxidizing symbionts, to the genus Acinetobacter, and to the genus Sphingomonas. We also cloned and sequenced PCR-amplified **DNA** related to the pcpB gene, coding for the Sphingomonas PCP-4-monooxygenase and detected in both reactors after two weeks of enrichment. Of the 16 examined clones, deduced amino acid sequences of 13 clones were highly related to the Sphingomonas sp. strain UG30 pcpB. The three remaining pcpB clones were not closely related to the three known Sphingomonas pcpB.

L5 ANSWER 144 OF 193 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:904636 CAPLUS
DOCUMENT NUMBER: 134:158346
TITLE: Long-Chain N-Acyl Amino Acid Antibiotics Isolated from Heterologously Expressed Environmental DNA
AUTHOR(S): Brady, Sean F.; Clardy, Jon
CORPORATE SOURCE: Department of Chemistry and Chemical Biology, Cornell University, Ithaca, NY, 14853-1301, USA
SOURCE: Journal of the American Chemical Society (2000), 122(51), 12903-12904
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors report the characterization of new natural products which are a series of long-chain N-acyl-L-tyrosine antibiotics and the gene for a long-chain N-acyl amino acid synthase. A cosmid **library** of **DNA** extd. from **soil** samples (eDNA) was **screened** for prodn. of antibacterial activity using a plate assay. A clone which produced an org. ext. with antibacterial activity was further characterized by insertion mutagenesis and sequence anal. The antibacterial activity was assocd. with an open reading frame ORF1 which encodes a predicted N-acyl transferase. The active org. ext. produced by subclone CLS12.1 was purified and analyzed by mass spectroscopy and ninhydrin assay and consisted of a series of long-chain satd. and unsatd. acyl deriv. of tyrosine named CSL12-A through CSL12-M. CSL12-A through CSL12-M varied in antibacterial activity. Activity and structure of the most abundant (CSL12-C, N-decanoyl-L-tyrosine), and one of the most active (CSL12-G, N-myristoyl-L-tyrosine) were confirmed by total synthesis.
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 145 OF 193 BIOTECHNO COPYRIGHT 2002 Elsevier Science B.V.
ACCESSION NUMBER: 2001:34051903 BIOTECHNO
TITLE: Cloning of .beta.-mannanase gene from Aeromonas sp. in E. coli
AUTHOR: Park B.-H.; Kang D.-K.; Kim H.K.
CORPORATE SOURCE: H.K. Kim, Division of Life Science, Pai Chai University, Taejon 302-735, South Korea.
E-mail: hakun@mail.paichai.ac.kr
SOURCE: Korean Journal of Applied Microbiology and

Biotechnology, (2001), 29/4 (201-205), 13 reference(s)
CODEN: SMHAEH ISSN: 0257-2389
DOCUMENT TYPE: Journal; Article
COUNTRY: Korea, Republic of
LANGUAGE: Korean
SUMMARY LANGUAGE: English
AN 2001:34051903 BIOTECHNO
AB A bacteria strain producing extracellular .beta.-mannanase was isolated from **soil** and was identified as Aeromonas sp. A genomic **DNA library** constructed from Aeromonas sp. that secrets a .beta.-mannanase was **screened** for mannan hydrolytic activity. Recombinant .beta.-mannanase activity was detected on the basis of the clear zones around Escherichia coli colonies grown on a LB medium supplemented locust bean gum. EcoRI restriction analysis of plasmid prepared from recombinant E. coli which showed a .beta.-mannanase activity revealed 10 kb **DNA** insert. The optimum pH and temperature for the activity of recombinant .beta.-mannanase were 6.0 and 50.degree.C, respectively, and were identical to those of the native enzyme.

L5 ANSWER 166 OF 193 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:222980 BIOSIS
DOCUMENT NUMBER: PREV200200222980
TITLE: Exploring uncultivated soil microorganisms for natural products drug discovery.
AUTHOR(S): Courtois, S. (1); Martinez, A.; August, P. R.; Cappellano, C. M. (1); Jeannin, P. (1); Pernodet, J. L.; Simonet, P.; Brown, K.; Hopke, J.; Kolvek, S.; MacNeil, I. A.; Osburne, M. S.; Ribard, C.; Yip, C. L. Tiong
CORPORATE SOURCE: (1) Aventis Pharmaceuticals, Vitry-Sur-Seine France
SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (2001) Vol. 101, pp. 513-514. http://www.asmusa.org/mtgsrc/generalmeeting.htm. print. Meeting Info.: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001 ISSN: 1060-2011.
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The enormous diversity of as yet uncultured microorganisms in the **soil** and other environments provides a potentially rich source of novel natural products for drug discovery efforts. We reported previously on the creation and **screening** of an E. coli **library** containing **soil DNA** shotgun cloned into a BAC vector. In that initial study, we were able to identify both novel enzyme activities and a family of antibacterial small molecules encoded by **soil DNA** cloned and expressed in E. coli. To continue our pilot study of the feasibility of this approach, we have developed additional strains and vectors, reported here, for cloning and expression of environmental **DNA** in Streptomyces. In addition, we have now **screened** a new **soil library** in E. coli and are in the process of **screening** it in Streptomyces. Thus far we have identified several antibacterial and drug-resistance activities in this **library**, and will present results of genetic, biochemical, and chemical characterizations of these new activities. Our data continue to suggest strongly that the development of technology to access the genomes of uncultivated microorganisms has the potential to greatly enhance natural product drug discovery efforts.

L5 ANSWER 172 OF 193 AGRICOLA
ACCESSION NUMBER: 2001:80416 AGRICOLA
DOCUMENT NUMBER: IND23233734
TITLE: A novel gene encoding a 54 kDa polypeptide is essential for butane utilization by Pseudomonas sp. IMT37.
AUTHOR(S): Padda, R.S.; Pandey, K.K.; Kaul, S.; Nair, V.D.; Jain,

R.K.; Basu, S.K.; Chakrabarti, T.

AVAILABILITY: DNAL (QR1.J64)

SOURCE: Microbiology, Sept 2001. Vol. 147, No. pt.9. p. 2489-2491
Publisher: Reading, U.K. : Society for General Microbiology, c1994-
CODEN: MROBEO; ISSN: 1350-0872

NOTE: Includes references

PUB. COUNTRY: England; United Kingdom

DOCUMENT TYPE: Article

FILE SEGMENT: Non-U.S. Imprint other than FAO

LANGUAGE: English

AB Twenty-three propane- and butane-utilizing bacteria were isolated from **soil** samples collected from oilfields. Three of them have been identified as Rhodococcus sp. IMT35, Pseudomonas sp. IMT37 and Pseudomonas sp. IMT40. SDS-PAGE analysis of the membrane of Rhodococcus sp. IMT35 revealed the presence of at least four polypeptides induced by propane. Polyclonal antibody raised against a 58 kDa polypeptide from Rhodococcus sp. IMT35 specifically detected bacteria which were actively utilizing propane or butane. Immunoscreening of a genomic **library** in lambdagt11 with this antibody resulted in isolation of a clone containing a 4.9 kb EcoRI genomic **DNA** fragment. This 4.9 kb **DNA** fragment was found to hybridize specifically with organisms which could grow on propane or butane. This fragment could therefore be used as a probe for detection of such bacteria. A 2.3 kb fragment having an ORF encoding a polypeptide of 54 kDa was identified by **screening** a genomic **library** of Pseudomonas sp. IMT37 with this 4.9 kb EcoRI fragment. The sequence of the ORF (designated orf54) was found to be novel. Primer extension and S1 nuclease mapping showed that transcription of the ORF starts at base 283 and it had sequences upstream similar to that of a Pseudomonas promoter (-12, -24 type). Disruption of the ORF by a kanamycin ('kan') cassette prevented the organism from growing on any alkane but did not affect its ability to utilize the respective alkanols and acids, indicating that alcohol dehydrogenase and subsequent steps in the pathway remained unaltered. The mutants had no detectable level of butane monooxygenase activity. Therefore, the product of this gene plays a crucial role in the first step of the pathway and is an essential component of monooxygenase. The findings imply that this bacterium either employs a common genetic and metabolic route or at least shares the product of this gene for utilization of many alkanes.

L5 ANSWER 176 OF 193 USPATFULL

ACCESSION NUMBER: 2002:294537 USPATFULL

TITLE: Combinatorial screening of mixed populations of organisms

INVENTOR(S): Short, Jay M., Rancho Santa Fe, CA, UNITED STATES

PATENT ASSIGNEE(S): Diversa Corporation, San Diego, CA (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002164580	A1	20021107
APPLICATION INFO.:	US 2002-95246	A1	20020311 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 2000-663620, filed on 15 Sep 2000, PENDING Continuation-in-part of Ser. No. US 1999-375605, filed on 17 Aug 1999, PENDING Continuation of Ser. No. US 1996-651568, filed on 22 May 1996, GRANTED, Pat. No. US 5939250

	NUMBER	DATE
PRIORITY INFORMATION:	US 1995-8316P	19951207 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: HALE AND DORR, LLP, 60 STATE STREET, BOSTON, MA, 02109

NUMBER OF CLAIMS: 20

EXEMPLARY CLAIM: 1
LINE COUNT: 4038
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Provided is a method of screening gene libraries derived from a mixed population of organisms for a bioactivity or biomolecule of interest. The mixed population of organisms can be a cultured population or an uncultured population from, for example, the environment. Also provided are methods of screening isolates or enriched populations of organisms, which isolates include a population that is spatially, temporally, or hierarchical, for example, of a particular species, genus, family, or class of organisms. Identified clones containing a biomolecule or bioactivity of interest can be further variegated or the DNA contained in the clone can be variegated to create novel biomolecules or bioactivities of interest.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 180 OF 193 USPATFULL
ACCESSION NUMBER: 2002:217398 USPATFULL
TITLE: Method for isolation of xylanase gene sequences from soil DNA, compositions useful in such method and compositions obtained thereby
INVENTOR(S): Radomski, Christopher C. A., Abbotsford, CANADA
Seow, Kah Tong, Singapore, SINGAPORE
Warren, R. Antony J., Vanouver, CANADA
Yap, Wai Ho, Singapore, SINGAPORE
PATENT ASSIGNEE(S): Terragen Diversity, Inc., Vancouver, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6441148	B1	20020827
APPLICATION INFO.:	US 1998-130337		19980806 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1996-716942, filed on 20 Sep 1996, now patented, Pat. No. US 5849491

	NUMBER	DATE
PRIORITY INFORMATION:	US 1995-4157P	19950922 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Arthur, Lisa B.
ASSISTANT EXAMINER: Goldberg, Jeanine
LEGAL REPRESENTATIVE: Fish & Neave, Haley, Jr., James F., Brown, Karen E.
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1,2,4
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 935
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Xylanase **DNA** is recovered from **soil** by PCR amplification using degenerate primers. Because of the complexity of the **soil** samples, it is likely that the recovered product will include more than one species of polynucleotide. These recovered copies may be cloned into a host organism to produce additional copies of each individual species prior to characterization by sequencing. Recovered **DNA** which is found to vary from known xylanases can be used in several ways to facilitate production of novel xylanases for industrial application. First, the recovered **DNA**, or probes corresponding to portions thereof, can be used as a probe to **screen** **DNA libraries** and recover intact xylanase genes including the unique regions of the recovered **DNA**. Second, the recovered **DNA** or polynucleotides corresponding to portions thereof, can be inserted into a known xylanase gene to produce a recombinant xylanase gene with the sequence variations of the recovered **DNA**.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 14:16:41 ON 16 DEC 2002)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 14:16:58 ON 16 DEC 2002

SEA DNA? AND LIBRAR? AND (SCREEN? OR TEST?) AND CLON?

1	FILE ADISINSIGHT
1191	FILE AGRICOLA
1	FILE ANABSTR
345	FILE AQUASCI
81	FILE BIOBUSINESS
16	FILE BIOCOMMERCE
8472	FILE BIOSIS
3141	FILE BIOTECHABS
3141	FILE BIOTECHDS
7550	FILE BIOTECHNO
2990	FILE CABA
2115	FILE CANCERLIT
8341	FILE CAPLUS
121	FILE CEABA-VTB
29	FILE CEN
5	FILE CIN
42	FILE CROPU
5	FILE DDFU
10160	FILE DGENE
3	FILE DRUGNL
42	FILE DRUGU
9	FILE DRUGUPDATES
23	FILE EMBAL
7144	FILE EMBASE
3456	FILE ESBIOBASE
981	FILE FEDRIP
12	FILE FROSTI
146	FILE FSTA
401587	FILE GENBANK
1	FILE HEALSAFE
501	FILE IFIPAT
505	FILE JICST-EPLUS
3	FILE KOSMET
3222	FILE LIFESCI
1	FILE MEDICONF
10366	FILE MEDLINE
4	FILE NIOSHTIC
84	FILE NTIS
68	FILE OCEAN
2089	FILE PASCAL
4	FILE PHARMAML
1	FILE PHIC
29	FILE PHIN
207	FILE PROMT
4256	FILE SCISEARCH
2318	FILE TOXCENTER
25131	FILE USPATFULL
280	FILE USPAT2
19	FILE VETU
1216	FILE WPIDS

```
            1216   FILE WPINDEX
             274   FILE NLDB
L1              QUE DNA? AND LIBRAR? AND (SCREEN? OR TEST?) AND CLON?
                ---------

     FILE 'GENBANK, USPATFULL, MEDLINE, DGENE, BIOSIS, CAPLUS, BIOTECHNO,
     EMBASE, SCISEARCH, ESBIOBASE, LIFESCI, BIOTECHDS, CABA, TOXCENTER,
     CANCERLIT, PASCAL, WPIDS, AGRICOLA' ENTERED AT 14:19:48 ON 16 DEC 2002
L2          442 S DNA? (S) LIBRAR? (S) (SCREEN? OR TEST?) (S) SOIL?
L3          193 DUP REM L2 (249 DUPLICATES REMOVED)
L4          193 FOCUS L3 1-
L5          193 SORT L4 PY A

=> log h
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                  111.31     114.17

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -0.62      -0.62

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 14:49:23 ON 16 DEC 2002
```